

JPRS 78736

12 August 1981

USSR Report

CONSTRUCTION AND EQUIPMENT

No. 42



FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available through Bell & Howell, Old Mansfield Road, Wooster, Ohio, 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

12 August 1981

USSR REPORT
CONSTRUCTION AND EQUIPMENT

No. 42

CONTENTS

CONSTRUCTION

Belorussian Gosstroy Deputy Minister on Reequipping Construction Industry (V. P. Lastochkin Interview; ZVYAZDA, 19 Jun 81).....	1
RSFSR Council of Ministers Decree Revises Building-Cost Estimating Rules (SOBRANIYE POSTANOVLENIY PRAVITEL'STVA ROSSIYSKOY SOVETSKOY FEDERATIVNOY SOTSIALISTICHESKOY RESPUBLIKI, No 11, 1981).....	4
New Regulation on Design-Estimating Issued (SOBRANIYE POSTANOVLENIY PRAVITEL'STVA SOYUZA SOVETSKIKH SOTSIALISTICHESKIKH RESPUBLIK, No 14, 1981).....	13
Need To Consolidate Construction and Installation Organizations Discussed (K. Rozykulyyev; FINANSY SSSR, May 81).....	29
New Laser Used in Survey Work for Construction (N. Khot'skiy; RABOCHAYA GAZETA, 17 May 81).....	31
International Exhibition of Construction Technology Discussed (V. Chudin; SOTSIALISTICHESKAYA INDUSTRIYA, 11 Jun 81).....	33
Problems With Mechanized Tool Shortage Discussed (SOTSIALISTICHESKAYA INDUSTRIYA, 18 Jun 81).....	36
Giant Earth-Moving Machinery Described (SOTSIALISTICHESKAYA INDUSTRIYA, 18 Jun 81).....	38

High Construction Official Points Out Design Program Deficiencies (I. Novikov; IZVESTIYA, 30 Jun 81).....	39
Citizens' Complaints About Housing Analyzed (IZVESTIYA, 4 Jun 81).....	44
Machinebuilders' Neglect of Spare Parts Production Termed Costly (Yu. Borisov; TRUD, 5 Jun 81).....	48
Status of Uzbek Construction Work Reviewed (PRAVDA VOSTOKA, 10 Jun 81).....	52
Construction Progress at Belorussian Kolkhozes Reviewed (BELTA; SEL'SKAYA GAZETA, 14 Jun 81).....	54
Lapses in Armenia's Construction of Civic Facilities Criticized (Armenpress; KOMMUNIST, 18 Jun 81).....	57
Briefs New Moscow Water Main	60

CONSTRUCTION MACHINERY

Briefs	
New Pipelayer	61
Miniloader	61
Mobile Tower Crane	61
Excavator for Slurry Walls	62
New Loader	62

BUILDING MATERIALS

New Method of Preventing Corrosion Outlined (STROITEL'STVO I ARKHITEKTURA, Jun 81).....	63
--	----

METALWORKING EQUIPMENT

Developments in Machinebuilding, Heavy Equipment (Various sources, various dates).....	64
Computer-Designed Machine Parts, by V. Nat	
Atomnash Reactor Production Starts, by A. Zornin	
Plant Produces Second Robot	
Machinebuilding's Crucial Contribution, by G. Vlasenkov	
Machinebuilding Quality Improvement Conference, by V. Kovalenko	
More Reliable, Durable Tools, by I. Novosel'skiy	
Automatic Vertical Milling Machine, by A. Shipov	

CONSTRUCTION

BELORUSSIAN GOSSTROY DEPUTY MINISTER ON REEQUIPPING CONSTRUCTION INDUSTRY

Minsk ZVYAZDA in Belorussian 19 Jun 81 p 2

[Interview with V. R. Lastochkin, Deputy Chairman of Belorussian SSR Gosstroy, by ZVYAZDA correspondent; date and place not specified: "Strategy of Search"]

[Text] In order to cope with the growing tasks in the area of capital construction, it is essential to ensure a rise in its technological and organizational level. Concrete tasks in this area have found reflection in measures ratified by the Central Committee of the Communist Party of Belorussia and the Council of Ministers of the BSSR on boosting the technological level and securing labor productivity growth in construction in the 11th Five-Year Plan. This is a comprehensive republic program, which calls for extensive adoption of advanced solutions in the construction industry. Ratification by the republic government of measures pertaining to the technological re-equipping and renovation of precast reinforced concrete plants have become a component part of this program.

Our correspondent asked V. R. Lastochkin, Deputy Chairman of BSSR Gosstroy, to relate how reequipping of the production facilities of the construction industry is to be achieved in the course of the five-year plan.

[Answer] A previously conducted survey of approximately 120 construction industry enterprises indicated that like products are being produced at these facilities on the basis of different production arrangements, with a differing level of technical-economic indices. At some enterprises there are occurring large, unproductive losses of thermal energy. Deficiencies in production lines are impeding efforts to boost the level of prefabrication of precast structures and to improve their quality. Under the direction of BSSR Gosstroy, with the participation of ministries and other agencies, proposals have been drawn up which call for improving production processes and equipment of all components in the production of precast reinforced concrete in this republic. Concrete mixing and reinforcing bar shops, casting, thermal and power equipment, as well as cement, aggregate and finished product storage facilities will be renovated. Plans call for adoption of an aggregate of measures which will ensure improving product quality, reducing specific consumption of cement, steel, and achieving savings in heat and power resources. Concrete targets

have been specified for each of the 40 plants to be renovated, and the requisite volumes of capital spending have been specified.

[Question] The quality of concrete and reinforced concrete products depends first and foremost on the technological level of the concrete batching process. What is to be done to improve this process?

[Answer] Plans call for adopting equipment and systems which will ensure the employment of chemical additives and further automation of production. Employment of automatic control will make it possible to double and even triple labor productivity in concrete mixing shops and to reduce cement consumption by up to 5 percent. Nine such systems are to be put into operation during this five-year plan.

[Question] We know that the most laborious operations are those connected with pouring and casting reinforced concrete products. These operations involve considerable expenditures of manual labor....

[Answer] That is true. Therefore an aggregate of measures has been specified which take into account such trends in modern development of the construction industry as continuous production flow, mechanization, automation and specialization of production, series production, standardization of components, increased level of prefabrication, reliability and a high degree of dependability of structures. Heat treatment of products will be performed on the production lines in heat-insulated chambers. This alone will make it possible substantially to reduce specific consumption of steam. Plans call for completing the installation of automated heat treatment control systems, to convert over the majority of casting shops to reduced-length optimized heat treatment conditions, and to improve steam power equipment, which will make it possible to cut in half consumption of thermal energy resources.

[Question] Do these measures take account of construction project needs in the area of advanced structures and materials?

[Answer] They certainly do. The renovated production facilities are to produce more new products. In particular, efforts will be expanded in the area of improving efficiency and quality of manufacture of annular-section reinforced concrete components, and there will be an increase in production of pipe and collars by centrifugal rolling and casting techniques, and large-size structures for industrial buildings and structures. Attention will be focused on efficient utilization of process equipment and on increased labor productivity in the production of massive, long-dimension structures such as beams, girders, columns, collar beams, and long-dimension slabs.

[Question] A number of measures involve technological reequipping of reinforcement shops. How will this be accomplished?

[Answer] By shifting to a more advanced mechanized flow-line process with installation of lines, machinery and equipment making it possible to mechanize and automate laborious manual processes. Initial processing, assembly and transfer activities on these lines are to be fully interlinked. We have taken into account the fact that this country's industry at the present time cannot provide complete replacement of

our existing inventory of machinery, and therefore we are modernizing that equipment which is suitable for utilization and are setting up automated and semiconveyer lines based on this equipment.

[Question] Analysis of practical operations indicates that expenditure of steam in the production of precast reinforced concrete substantially exceeds the standard figure. What is being done to combat heat losses?

[Answer] We have established that the main reasons for unproductive heat losses are an unsatisfactory state of equipment and heat lines, inefficient utilization of facilities, and lack of strict accounting of steam consumption. Therefore plans call for improving thermal insulation both on presently existing steam-curing chambers and on those under construction, and plans also call for carrying out a number of other effective measures. In particular, we are planning the extensive adoption of automated systems for monitoring and controlling conditions of heat treatment on the basis of computer-controlled regulating mechanisms. Their employment will make it possible to intensify processes, and consumption of steam will decline by 10-15 percent. Maximum steam consumption figures have been calculated for each plant.

[Question] The question of reducing cement consumption is also an important one.

[Answer] This is true. Cement is being consumed uneconomically at a number of plants. This is due first and foremost to faulty process and equipment. As a result of adoption of an aggregate of measures, savings in cement should amount to 67,900 tons by the end of the five-year plan.

[Question] What savings can be anticipated from proposals pertaining to technological reequipping and renovation of precast reinforced concrete enterprises?

[Answer] The overall production capacity of 40 precast reinforced concrete enterprises of all the construction ministries and agencies of this republic will increase by 73 percent over 1979 as a result of implementation of these proposals. Specific capital investment will average 61.2 rubles per cubic meter, which is only two thirds that required for the construction of new enterprises. Total savings from reducing production cost and specific capital investment, upon completion of the renovation program, will amount to approximately 25 million rubles.

3024

CSO: 1811/59-A

CONSTRUCTION

RSFSR COUNCIL OF MINISTERS DECREE REVISES BUILDING-COST ESTIMATING RULES

Moscow SOBRANIYE POSTANOVLENIY PRAVITEL'STVA ROSSIYSKOY SOVETSKOY FEDERATIVNOY SOTSIALISTICHESKOY RESPUBLIKI in Russian No 11, 1981 pp 162-172

[Decree No 149, dated 16 March 1981, of the RSFSR Council of Ministers: "On Conversion to the New System of Budget-Estimating Norms and Prices for Construction"]

[Text] With a view to providing for timely conversion to the new budget-estimating norms and prices for planning capital construction and for determining the budget-estimated cost of construction projects, and in execution of USSR Council of Ministers Decree No 5, 4 January 1981, the RSFSR Council of Ministers decrees:

1. RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms are to provide for the development and presentation to RSFSR Gosstroy, prior to 1 May 1982, of drafts of indices of change in the budget-estimated cost of construction and installing operations and of other operations and expenditures by branch of the national economy, by branch of industry and by sector within branches, for construction projects that convert during 1984 and for construction projects newly started in 1984.

RSFSR Gosstroy will review the indicated drafts of indices and present a consolidated summary of them to the RSFSR Council of Ministers by 1 August 1982.

2. RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms will recompute prior to 1 January 1983 the residues of the budget-estimated cost of machinery and equipment for construction projects that convert during 1984 and the budget-estimated cost of machinery and equipment for construction projects that are newly started in 1984, and, prior to 20 January 1983, will present to RSFSR Gosstroy, RSFSR Gosplan, the RSFSR State Committee for Prices, the RSFSR Ministry of Finance, the RSFSR TsSU [Central Statistical Administration], the Russian Republic Office of USSR Stroybank and the Russian Republic Office of USSR Gosbank drafts of indices of change in the budget-estimated cost of machinery and equipment that are included in the budget estimates of construction projects and of indices of change in the cost of machinery and equipment that are not included in the budget estimates of construction projects, by branch of the national economy and by branch of industry, together with the data about the results of the recomputation of the budget-estimated cost of machinery and equipment.

RSFSR Gosstroy, RSFSR Gosplan, the RSFSR State Committee for Prices, the RSFSR Ministry of Finance, the RSFSR TsSU, the Russian Republic Office of USSR Stroybank and

the Russian Republic Office of USSR Gosbank are to examine jointly the indicated drafts of indices and present a consolidated summary of them to the RSFSR Council of Ministers prior to 20 February 1983.

3. RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms, on the basis of the instructions and the indices that have been worked out and approved in accordance with clause 2 of USSR Council of Ministers Decree No 5 of 4 January 1981, are to recompute prior to 1 July 1983 the residues of the budget-estimated cost of construction and installing operations and of other operations and expenditures for construction projects that convert during 1984 and of the budget-estimated cost of construction and installing operations and of other operations and expenditures for construction projects newly started in 1984.

4. RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms will report by 1 December 1982 to RSFSR Gosplan, RSFSR Gosstroy, RSFSR Ministry of Finance, the RSFSR State Committee for Prices and RSFSR TsSU preliminary data about change in the level of the budget-estimated cost of construction in connection with the introduction of new budget-estimating norms and prices with regard to the capital investment ceiling structure established for 1984 and 1985 in the State Plan for the Economic and Social Development of the RSFSR During 1981-1985.

RSFSR Gosstroy and RSFSR Gosplan, with the participation of the RSFSR Ministry of Finance, the RSFSR State Committee for Prices and RSFSR TsSU, are to review and report the indicated data and present to the RSFSR Council of Ministers by 20 December 1982 corresponding preliminary data about change in the level of budget-estimated costs of construction during application of the new budget-estimating norms and prices.

5. Autonomous republic councils of ministers, kray and oblast ispolkoms, and the Moscow and Leningrad city ispolkoms, with the participation of construction ministries and of client ministries for nonspecialized construction projects, and RSFSR client ministries and agencies, with the participation in the necessary cases of construction ministries for specialized construction projects (including those of the linear type), are to provide for:

a) the preparation prior to 1 October 1981, with the participation of USSR Stroybank and USSR Gosbank institutions, of data about the terms and distances for hauling local building materials, articles and structure that are subject to consideration in the budget-estimated prices, delivered to the construction site's storage place for these materials, articles and structure for the facility being built.

b) the development and approval prior to 1 July 1982 of collections of budget-estimating prices for local building materials, articles and structure, taking into account the new wholesale prices for industrial output, and also the charges for freight hauling.

The following collections of budget-estimating prices are approved:

for nonspecialized construction projects--by autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms, in coordination with the appropriate construction ministries and basic client ministries; and

for specialized construction projects (including those of the linear type)--by RSFSR client ministries and agencies in coordination with the appropriate contracting organizations;

c) the tie-in of unified regional unit piecework rates for construction work carried out with the use of local building materials, articles and structure, with local construction conditions; these piecework rates to be approved prior to 1 November 1982 in coordination with the appropriate construction ministries;

d) recomputation and approval of:

estimations of budget-estimating costs for the upkeep of railroad sidings not owned by a common carrier--prior to 1 April 1982; and

additional unit piecework rates and calculations of the budget-estimated prices for electricity, steam, water and compressed air--prior to 1 November 1982.

RSFSR Gosstroy is charged with supervising the standard practices and monitoring the execution of this work.

6. RSFSR Gosstroy, RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms are to take part in the development by USSR Gosstroy, based upon the new budget-estimating norms, wholesale prices and charges, of:

collections of average regional budget-estimating prices for imported building materials, articles and structure, and pricing handbooks for construction-machinery machine-hours;

collections of budget-estimating prices for hauling freight for construction; and

collections of unified regional unit piecework rates for construction operations, and collections of budget-estimated norms (or piecework rates) for the installation of equipment.

7. RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms are to provide for recomputation of new budget-estimating norms and list prices for the construction of buildings and structures prior to 1 March 1983.

RSFSR Gosstroy and RSFSR ministries and agencies are to reapprove price lists prior to 1 April 1983.

RSFSR Gosstroy is granted the right to approve, where necessary and with the coordination of RSFSR Gosplan, additional revisions to price lists for the construction of buildings and structures that have been recomputed and approved in accordance with this clause.

8. RSFSR ministries and agencies are to provide for the recomputation of collections of consolidated budget-estimating norms for buildings and structures and also for constructional structure and for types of operations; and of collections of budget-estimating norms for expenditures for equipment and paraphernalia for social and administrative buildings, in the established procedure, prior to 1 December 1982.

9. RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms, and the Moscow and Leningrad city ispolkoms are to:

provide, prior to 1 July 1983, for the recomputation of facility budget estimates for construction projects that converted during 1984 and for those newly started in 1984 according to the new unit piecework rates for construction operations, budget-estimating norms (or piecework rates) for the installation of equipment, consolidated budget-estimating norms, price lists, and norms for overhead expenditures and for plan accumulations, and also provide for the reapproval of these budget estimates in coordination with the contracting organizations; and

report, under the program coordinated with USSR Gosplan and USSR Gosstroy, data on recomputation of the budget-estimated cost of construction and installing operations with respect to facility budget estimates, by developer and by contracting organization, and present, prior to 15 July 1983, to RSFSR Gosstroy, RSFSR Gosplan, RSFSR Ministry of Finance, the Russian Republic Office of USSR Stroybank and the Russian Republic Office of USSR Gosbank consolidated data about change in the level of the budget-estimated cost of construction and installing operations by branch of the national economy and by branch of industry and about change in the amounts of contracting work because of conversion to the new budget-estimating norms and prices for construction.

RSFSR Gosstroy, RSFSR Gosplan, the RSFSR Ministry of Finance, the Russian Republic Office of USSR Stroybank and the Russian Republic Office of USSR Gosbank are to examine the indicated consolidated data, compare it with the approved indices for change in budget-estimating cost of construction and installing operations, and present a report on the results of the examination to the RSFSR Council of Ministers prior to 1 August 1983.

10. RSFSR ministries and agencies are to recompute collections of consolidated indicators for construction costs in accordance with the new budget-estimating norms and prices and reapprove them prior to 1 March 1983 in the established procedure.

11. RSFSR TsSU, with the participation of RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms, within 5 months after approval of the indices called for in clauses 2 and 3 of the USSR Council of Ministers Decree No 5 dated 4 January 1981, recompute, in accordance with these indices, the actual amounts of capital investment, construction and installing work, drilling work, and expenditures for equipment and other expenditures, by branch of the national economy, by branch of industry, and by RSFSR ministry and agency, as well as the amounts of contracting work and of the reporting data about labor productivity, prime cost and profit in construction by RSFSR ministry and agency for 1976-1980 (except for prime cost and profit) and for 1981-1982 and report the results of this recomputation to USSR TsSU and RSFSR Gosplan.

Data of the indicated recomputations for 1983 are to be reported to USSR TsSU and RSFSR Gosplan prior to 1 June 1984.

12. RSFSR Gosstroy, jointly with RSFSR Gosplan, the RSFSR Ministry of Finance, the RSFSR State Committee for Prices, RSFSR TsSU, the Russian Republic Office of USSR Stroybank, the Russian Republic Office of USSR Gosbank, RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms and the

Moscow and Leningrad city ispolkoms are to take part in USSR Gosstroy's development of drafts of new norms for overhead expenditures and new norms for planned accumulations in construction.

13. Autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms, with the participation of interested ministries and agencies, are to examine questions of the use of unified prices of local building materials, articles and structure, delivered to the construction site, when making settlements for shipments, and to present to RSFSR Gosstroy prior to 1 June 1981 recommendations for the introduction of these prices in oblasts, krays and autonomous republics where there are appropriate production and economic conditions, having in mind the establishment of budget-estimating prices of a unified level for these regions during conversion to the new budget-estimating norms and prices for construction.

RSFSR Gosstroy, with the participation of the construction ministries, the RSFSR Ministry of Construction Materials Industry, RSFSR Gossnab, the Russian Republic Office of USSR Stroybank and the Russian Republic Office of USSR Gosbank, is to examine:

the recommendations of the autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms on the list of regions in which the indicated prices will be introduced; and

the question about the desirability of the introduction of oblast baseline budget-estimated prices for local building materials, articles and structure instead of zonal budget-estimated prices in those regions that lack the necessary production and economic conditions for conversion to settlements for unified prices, delivered to the construction site.

RSFSR Gosstroy is to present recommendations on the indicated questions to the RSFSR Council of Ministers prior to 10 July 1981 for transmittal to USSR Gosstroy.

14. RSFSR Gosstroy, RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms are authorized to carry out in 1981-1983 operations on the examination and development of All-Union budget-estimating norms and piecework rates through RSFSR State Budget appropriations which are allocated for the financing of design work for plans that are approved by USSR Gosstroy, and operations connected with the establishment of data about terms and distances for hauling imported and local building materials, article and structure, the development of collections of budget-estimating prices for local building materials, articles and structure, the tie-in of unified regional unit piecework rates to local construction conditions, the recomputation of consolidated budget-estimating norms, consolidated indicators for construction costs, price lists, and budget-estimating documentation, and operations connected with the development of individual norms and unit piecework rates that are not called for in the collections of All-Union norms and piecework rates--through general appropriations for capital investment and within the limits of the total amounts of design and surveying operations established for them. Expenditures for the indicated purposes (except for work on the recomputation of budget-estimating documentation) that are financed through capital investment should be categorized with expenditures that do not increase the cost of fixed capital.

15. RSFSR Gosstroy, RSFSR ministries and agencies and autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms are authorized to introduce appropriate revisions into plans for the work of subordinate design organizations during 1981.

16. RSFSR Gosstroy, RSFSR Gosplan, RSFSR ministries and agencies, autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms and organizations subordinate to them are authorized to recruit pensioners to carry out the operations called for by this decree and the expert examination of the papers that are developed in connection with conversion to the new budget-estimating norms and prices, the pensioners to retain the pensions received by them under the procedure called for by USSR Council of Ministers Decree No 862 of 11 September 1979 for workers engaged in expert examination of designs and budget estimates for the construction (or rebuilding) of enterprises, buildings and structures.

17. The RSFSR Ministry of Finance is to allot 25,000 rubles per year in 1981-1983 to RSFSR Gosstroy for wages for unassigned (nonpayroll) personnel who have been recruited to perform operations in accordance with this decree.

RSFSR Gosstroy is also authorized to spend a maximum of 15,000 rubles in 1981 for the indicated purposes, within the limits of and through the general wage fund which has been approved in accordance with the budget estimate of expenditures for the RSFSR Gosstroy central staff.

18. Autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms are to provide for the issuance of catalogs of unified regional unit piecework rates for construction operations that are tied in with local conditions for construction and collections of budget-estimated prices for local construction materials, articles and structure, prior to 1 March 1983.

The dates, number of copies and sizes of the editions of the indicated catalogs and collections are established by autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms in coordination with RSFSR Gosstroy and the RSFSR State Committee for Publishing Houses, Printing Plants and the Book Trade.

The RSFSR State Committee for Publishing Houses, Printing Plants and the Book Trade is to make available the necessary capacity for publishing the catalogs and collections in an amount up to 15,000 printer's sheets for the periods established.

RSFSR Gosplan and RSFSR Gossnab are to allocate the required amount of paper, pasteboard and bookbinding materials for publication of the indicated catalogs and collections in accordance with the requisitions of the autonomous republic councils of ministers, kray and oblast ispolkoms and the Moscow and Leningrad city ispolkoms.

19. Be it known that USSR Council of Ministers Decree No 5 of 4 January 1981:

a. established that, beginning 1 January 1984, the budget-estimated cost of capital construction should be determined on the basis of:

the new budget-estimating norms for construction and installing operations that will be put into effect on 1 January 1984, which reflect the modern level of equipment, technology and organization of construction operations and provide for reimbursement of the socially necessary expenditures, and have been aimed at reducing budget estimated construction costs;

new wholesale prices for industrial output and charges for electricity and heat that will go into effect on 1 January 1982, and also the charges for freight hauling as of 1 January 1982;

the norms and wage rates for paying wageworkers in construction as of 1 January 1980;

norms for the amounts of the price markups of supply and sales organizations that will be put into effect on 1 January 1982;

norms for depreciation deductions approved by USSR Council of Ministers Decree No 183 of 14 March 1974; and

new norms for overhead expenditures and planned accumulations for construction which consider improvement in the management of construction, and also charges for payments for state social insurance as called for by USSR Council of Ministers Decree No 54, 23 January 1980.

Conversion to the new budget-estimating norms, prices and charges for construction should be executed without loss to the state budget;

b) established that residues of the budget-estimated cost of construction and installing operations and of other operations and expenditures and residues of the budget-estimated cost of machinery and equipment for construction projects that converted during 1984 are defined on the basis of actual fulfillment of operations on 1 January 1983 and of the plan for operations for 1983;

c) forbade that charges of any kind not connected with the use of the new budget-estimating norms and prices for construction be introduced into design and budget-estimating documentation during recomputation of the budget-estimated cost of the construction projects;

d) required supervisors of client associations, enterprises and organizations to reapprove budget-estimated costs for building enterprises, buildings and structures that have been recomputed, based upon the appropriate instructions and indices, and vested responsibility in them for correctness of the recomputation;

e) charged ministries, agencies, ispolkoms of local soviets of people's deputies, USSR Stroybank and USSR Gosbank with monitoring the correctness of the recomputation of the budget-estimated cost of construction;

f) charged USSR Gosstroy with:

developing, with the participation of USSR Gosplan, USSR Ministry of Finance, USSR Stroybank and USSR Tssu, and approving, prior to 1 March 1981, instructions on a simplified procedure for recomputing the residues of the budget-estimated cost of construction and installing operations and of other operations and expenditures (including expenditures for deep exploratory and production drilling for oil, gas and hot water) by branch of the national economy, branch of industry, and sector within branches for construction projects that convert during 1984, and of the budget-estimated cost of construction and installing operations and of other operations and expenditures for construction projects newly started in 1984; and

establishing, prior to 1 August 1981, tasks for ministries and agencies to develop indices of change in the budget-estimated cost of construction and installing operations and of other operations and expenditures for identical types of construction by branch of the national economy, branch of industry and sector within such branches, and also with providing for monitoring the timely development of these indices;

g) charged USSR Gosstroy, USSR Gosplan, USSR Ministry of Finance, the USSR State Committee on Prices, USSR TsSU, USSR Stroybank and USSR Gosbank with developing and approving, prior to 1 March 1981, instructions on the procedure for:

recomputation, in accordance with the new prices, of the residues of the budget-estimated cost of machinery and equipment for construction projects that will convert during 1984 and of the budget-estimated cost of machinery and equipment for construction projects that are newly started in 1984, for which the indicated cost had been approved in budget-estimated 1976 prices. These instructions should require that recomputation be performed, as a rule, by direct recomputation in accordance with wholesale prices put into effect on and after 1 January 1982; and

determination of the indices of change in the budget-estimated cost of machinery and equipment included in construction-project budget estimates and indices of change in the cost of machinery and equipment that are not included in the budget-estimated costs of construction projects, which are necessary for recomputing ceilings on the capital investment allocated for acquiring machinery and equipment;

h) charged USSR Gosplan with developing and approving prior to 1 March 1983 instructions on the procedure for recomputing the indicators of capital construction plans for 1984-1985 in accordance with the indices of change in budget-estimating cost of construction and installing operations and of other operations and expenditures, and also of machinery and equipment, that were developed in accordance with the indicated decree;

i) charged USSR Gosstroy, with the participation of USSR ministries and agencies, with completing development and approval of new budget-estimating norms for construction operations during the first quarter of 1982;

j) in connection with the introduction of new wholesale prices and charges for industry into operation beginning 1 January 1982, charged USSR Ministry of Finance, USSR Gosplan, USSR Stroybank and USSR Gosbank, with the participation of the USSR State Committee for Prices, with

establishing procedures and sources for 1982-1983 financing of additional expenditures for construction; and

developing and presenting to the USSR Council of Ministers by 1 October 1981 recommendations on the procedure for reimbursing additional expenditures for the construction of housing that is performed by housing-construction cooperatives;

k) charged USSR Gosstroy, with the participation of USSR construction ministries, USSR Stroybank, USSR Gosbank and the USSR State Committee for Prices, with developing and approving, for a 2-month period:

instructions on the procedure for determining initial data about the terms and distances for hauling local and imported building materials, articles and structure; and

instructions on the procedure for developing new budget-estimated prices for building materials, articles and structure;

l) charged USSR ministries and agencies with establishing, with the participation of USSR Stroybank, USSR Gosbank and the USSR State Committee for Prices, and presenting to USSR Gosstroy by 1 June 1981 data about the terms and distances for hauling the main imported building materials, articles and structure, by oblast, kray, autonomous republic and Union republic that do not have oblast divisions, and by specialized construction project (including those of the linear type) necessary for developing collections of average rayon budget-estimating prices. The products mix of the main imported building materials, articles and structure, with indication of USSR ministries and agencies which are charged with presenting the indicated data, is established by USSR Gosstroy, and lists of specialized construction projects (including those that are linear) are established by the appropriate USSR ministries and agencies in coordination with USSR Gosstroy;

m) charged USSR Gosstroy with developing and approving;

prior to 1 October 1981, instructions on the procedure for recomputing for the new budget-estimating norms and prices: price lists for the construction of buildings and structures; collections of consolidated budget-estimating norms for buildings and structures, and also for constructional structure and types of operations; collections of budget-estimating norms for expenditures for tools and implements for production buildings, by branch of industry, and for equipment and paraphernalia for social and administrative buildings; and collections of consolidated indicators of the cost of construction; and

prior to 1 July 1982, instructions on the procedure for recomputing new unit piecework rates for construction operations, budget-estimating norms (or piecework rates) for installing equipment, price lists and consolidated budget-estimating norms for facility budget estimates, on the basis of which estimates are made for carrying out construction and installing operations; and

n) distributed to the workers of design organizations which do the work called for by the indicated decree a procedure for the awarding of bonuses for the development of standard designs that have been established for the workers of these organizations.

Chairman of the
RSFSR Council of Ministers M. Solomentsev

Administrator of Affairs of the
RSFSR Council of Ministers I. Smirnov

Moscow, 16 March 1981, No 149

11409

CSO: 1821/101

CONSTRUCTION

NEW REGULATION ON DESIGN-ESTIMATING ISSUED

Moscow SOBRANIYE POSTANOVLENIY PRAVITEL'STVA SOYUZA SOVETSKIKH SOTSIALISTICHESKIKH RESPUBLIK in Russian No 14 Otdel Pervyy 1981 pp 369-390

[Text] CPSU Central Committee and USSR Council of Ministers Decree "On Steps to Further Improve Design-Estimating." Article 84.

The CPSU Central Committee and USSR Council of Ministers note that the provision of construction projects with design-estimate documentation improved and the scientific-technical level of planning rose following adoption of the CPSU Central Committee and USSR Council of Ministers Decree "On Improving Design-Estimating" in 1969. A number of enterprises and installations have been built to high technical-economic indicators. The quality of standard plans has improved, including those for housing, civil construction and rural construction.

However, existing planning procedures do not facilitate accelerating introducing scientific and technical achievements into the national economy and solving the capital construction problems stemming from the "Basic Directions of USSR Economic and Social Development in 1981-1985 and Through 1989."

A great deal of time is spent working out plans, the volume of design-estimate documentation is unjustifiably high, and planning decisions must be agreed to by numerous state inspection agencies and interested ministries and departments.

In connection with the long planning and construction schedules, planning resolutions become obsolete and the estimated cost of projects increases significantly. Plans do not always take the latest scientific-technical achievements or progressive construction technologies and organization into account, and in many instances steps to save material resources and improve labor productivity are not anticipated.

With a view towards further improving design-estimating, the CPSU Central Committee and USSR Council of Ministers decree that:

1. The Union republic communist party central committees, kray, oblast and city party committees, USSR ministries and departments, Union and autonomous republic councils of ministers and the local Soviets of People's Deputies ispolkoms take steps to improve the work of planning and surveying organizations, to develop creative initiative and raise the level of occupational skill of their workers, with a view towards ensuring the creation of enterprise, building and installation designs which will meet the modern demands of scientific-technical and social progress and the conditions for changing the economy over to an intensive path of development in conformity with the resolutions of the 26th CPSU Congress.

2. The USSR ministries and departments, Union republic councils of ministers, design and surveying organizations be obligated, when designing enterprises, buildings and installations, to ensure:

a) use of the achievements of science, engineering and leading domestic and foreign experience in the designs, so that the enterprises being built or renovated will be technically advanced at the time of their start-up and ensure the release of high-quality output in conformity with scientifically substantiated normatives in terms of expenditure of labor, raw and other materials, fuel and energy, as approved for branches of the national economy and for branches of industry;

b) high capital investment effectiveness through:

priority growth in capacity through retooling and by renovating existing enterprises and production facilities;

introduction of highly productive equipment, installations and high unit-power units and considerably broader placement of equipment in open sites;

mechanization and automation of production processes and continued reduction in manual labor;

higher level of factory finishing of equipment, construction components and items supplied to construction sites;

use of the most economical transport routes for bringing in raw material, fuel, materials and assembly components and for shipping finished products;

use of industrial methods of construction and efficient forms of construction organization which will ensure greater labor productivity;

improvement in prefabricated-type planning and structural resolutions for buildings and installations, interconnected production facilities, the efficient use of slab reinforced concrete and lightweight support and enclosure components and other progressive items and materials and efficient utilities equipment;

c) high level of urban planning and architectural resolutions;

d) efficient land use, environmental protection, and earthquake-, explosion- and fire-safe facilities.

The USSR ministries and departments and the Union republic councils of ministers are to work out and approve for the corresponding branches basic directions in the design of enterprises, buildings and installations, as well as progressive specific cost and materials indicators, by construction project, for the five-year plan being developed and for the next five-year plan. Every five years, they are to make the necessary refinements in the indicated basic directions and indicators and to develop them for the new five-year period.

3. With a view towards raising the technical and economic level of design resolutions:

a) the USSR ministries and departments and the Union republic councils of ministers are to anticipate, in plans for raising the technical level of the branches, assignments on the use of scientific and technical achievements in the field of production technology, equipment, construction components and materials in plans for enterprises and installations.

The USSR State Committee for Science and Technology and the USSR Gosstroy are to monitor the implementation of these assignments.

b) client ministries, departments and organizations are to establish in assignments for planning enterprises, buildings and installations requirements on introducing new equipment and advanced experience, indicators on capital investment effectiveness, lowering construction materials- and labor-intensiveness and on labor productivity

growth; they are to entrust design organizations specialized by type of work with the development of appropriate design sections for large enterprises and installations (electric power supply, insulation, ventilation and other sections).

4. With a view towards reducing the labor intensiveness and time involved in planning and towards improving design resolution economy, work quality and labor productivity among planners, the USSR Gosstroy, USSR Gosplan, USSR ministries and departments and Union republic councils of ministers are to:

- ensure the development and approval in 1981 of a comprehensive program for automating design work;

- raise the level of design automation to 15-20 percent of the total amount of design work in the 11th Five-Year Plan.

The Ministry of Instrument Making, Automation Equipment and Control Systems is entrusted with the development (using small computers) of computer complexes for automated design, with consideration of the possibility of using them with medium-sized and large computers, and with developing programs for these complexes and with supplying such programs in complete sets.

The USSR Gosstroy is to ensure:

- coordination of the work of ministry and department design organizations on carrying out the indicated comprehensive program, on creating programs for automated design (including those for computer complexes) and managing the software system;

- preparing technical specifications on the composition of the computer complexes on the basis of the tasks being resolved by the design organizations.

5. Establish that the most important directions in planning must be the standardization of design resolutions based on standardizing prefabricated planning, design and technological resolutions, subassemblies, components and items, and also the extensive use of standard plans.

Duplicate basic and auxiliary production buildings and installations, entire enterprises whose production technology will be stable over a number of years, housing, public buildings and facilities, and agricultural facilities must be built following standard plans. The development of individual plans, given the availability of standard designs, is permitted in individual instances with the permission of the USSR Gosstroy, for large or complex enterprises, buildings, installation and housing, the USSR Ministry of Agriculture, for agricultural projects, and the Union republic gosstroy's, for other enterprises, buildings and installations.

In working out plans for building enterprises with frequently changing production technologies, standardized prefabricated-planning and design resolutions which permit adapting them to new technologies without considerable additional expenditures must be used for the buildings and installations of such enterprises.

When a number of identical branch projects must be put up, an individual plan is worked out for building the first facility in accord with the demands made on standard plans, and that plan is then used for the construction of other similar projects.

The ministries and departments are to review at collegium meetings the standard plans developed by them or for their clients for the construction of enterprises, buildings and installations.

The USSR Gosstroy is entrusted with solving organizational-technical and methods problems in the field of standard design.

6. The USSR Gosstroy is to:

a) establish the procedure for working out, coordinating, gaining expert appraisals on, approving, publishing, disseminating and using standard designs, as well as the procedure for reviewing and rescinding obsolete standard designs, in 1981, with consideration of the proposals of USSR ministries and departments and Union republic councils of ministers;

b) approve for the five-year plan being planned a list of progressive standard and often-used economic individual designs and set assignments on their use for each branch;

c) determine maximum expenditures, differentiated by economic region, for tying standard plans for building enterprises, buildings and installations into local conditions;

d) jointly with the ministries and departments, in 1981:

review the unionwide construction catalog of standard prefabricated reinforced concrete, metal, wood and asbestos-cement components and items for all types of construction and supplement it with new types of effective components and items;

ensure the development, based on the unionwide construction catalog and with the participation of leading territorial construction-installation organizations, territorial catalogs of standard construction components and items for industrial, agricultural, housing and civil construction for Union republics with no oblast divisions, for autonomous republics, krays, oblasts and the cities of Moscow and Leningrad, with consideration of reducing to a minimum the number of type-sizes of components and items and the extensive use of local building materials to manufacture them. Approve the indicated territorial catalogs after determining the schedules for instituting them and the procedure for introducing changes and supplements when necessary.

Establish that the use of components and items included in territorial catalogs and in departmental catalogs for specialized types of construction as approved with the consent of the USSR Gosstroy in building and installation plans does not require the agreement of the contractor organization carrying out the construction in the area in which that catalog is in effect;

e) ensure the continued development and regular publication, beginning in 1981, of albums of blueprints for standard construction components, items and subassemblies in order to reduce the compilation of the construction portion of the plans basically to the development of drawings and building or installation cross sections and installation charts, relying on the blueprints in those albums;

f) in 1982, refine the system of technical rate-setting and standardization in the field of design, with a view towards simplifying it, reducing the number of types of normative documents, eliminating duplication and unjustified detail in them, and reducing the time between completion of scientific research and experimental work and reflection of the results obtained in the normative documents. Normative documents must contain the basic provisions linked to the design and not restrict the creative initiative of planners which is aimed at lowering the estimated cost of construction and reducing labor expenditures involved in construction-installation work, and at saving building materials, especially rolled metal products;

g) with the participation of USSR ministries and departments, ensure the prompt review of obsolete norms on enterprise, building and installation planning and construction.

Establish that schedules for putting normative documents anticipating an increase in capital investment or higher expenditures of materials or equipment than specified in previously established norms or the use of new types of materials and items into effect must be set with the concurrence of the USSR Gosplan.

7. The USSR State Committee for Publishing Houses, Printing Plants and the Book Trade is to reduce the time involved in and improve the quality of publication of normative documents on planning and construction and improve the supply of them to design, surveying and other concerned organization..

8. The USSR Gosplan is to work out for USSR ministries and departments and Union republic councils of ministers, based on their proposals, and approve five-year plans (with assignments distributed by year) and annual design-surveying plans and plans for developing the network and material-technical base of design and surveying organizations. Assignments set for the corresponding year of the five-year plan are concretized and, in some instances, refined in these annual plans. When design-surveying plans are worked out for the planning year, assignments for the following year are refined at the same time, when necessary.

The plan for developing the network and material-technical base of design and surveying organizations is worked out with the participation of the USSR Gosstroy.

The indicated plans must be coordinated with capital construction plans, with plans for developing and distributing national economic branches and branches of industry, as well as with plans for developing and distributing productive forces by economic region and Union republic.

The USSR Gosplan is to set the USSR ministries and departments and the Union republic councils of ministers limits on design-surveying work for the planning period in percentages of the capital investment limits approved for them (with consideration of design on a competitive basis and of amount of design-surveying work in unfinished construction) which are differentiated by branch of the national economy and by branch of industry, based on branch features.

Refinements are made, when necessary, in the approved annual design-surveying plans following the procedure established by the USSR Gosplan, with the concurrence of the USSR Gosstroy.

9. The USSR Gosstroy approved five-year and annual plans (within the design-surveying work limits set by the USSR Gosplan) for: standard design; experimental design; reviewing existing normative documents and state standards on design and construction and working out new ones; developing general plans for industrial centers; studying and generalizing domestic and foreign experience in design and construction; working out regional development plans, plans for laying out and building up cities, urban-type settlements and rural population centers; seismic evaluation of microregions; developing defensive zone plans and plans for protecting territories and population centers from dangerous geological processes.

10. The USSR ministries and departments and the Union republic councils of ministers are to work out plans for developing and distributing branches of the national economy and branches of industry and plans for developing and distributing productive forces by economic region and Union republic for at least 15 years (by five-year plan).

Needed refinements are to be made in these plans every five years and new plans are to be drawn up for the new five-year period.

The plans define the tasks and basic indicators of branch, economic region and Union republic development and outline the comprehensive use of natural resources and an efficient combination of branch and territorial development.

Compilation of these plans includes the development of materials with calculations needed to substantiate the appropriateness of planning, building, renovating or expanding enterprises and installations, and it includes the calculated cost of construction (renovation, expansion) and other basic technical and economic indicators of the projects.

Plans approved under the established procedure are used to prepare lists of new construction projects and lists of enterprises and installations planned for renovation or expansion, to be approved as part of five-year capital construction plans, as well as lists of designs being developed which will be approved as part of five-year plans for design-surveying work.

In 1981, the USSR Gosplan, with the participation of the USSR Gosstroy, concerned USSR ministries and departments and Union republic councils of ministers, is to work out and approve methods instructions on the composition, procedure for developing, coordination, approval and refinement of plans for developing and distributing branches of the national economy and branches of industry as well as plans for developing and distributing productive forces by economic region and Union republic.

11. The USSR ministries and departments (concerning all the construction projects in their systems) and the Union republic councils of minister are given the right to approve titles lists of design-surveying work for enterprises, buildings and installations with an estimated cost of three million rubles or higher which are included in the list of designs being developed as approved in five-year plans for design-surveying work. Titles lists for design-surveying work for construction projects with an estimated cost of less than three million rubles are approved under the procedure established by USSR ministries and departments and Union republic councils of ministers.

12. USSR ministries and departments and Union republic councils of ministers are permitted to increase by up to five percent the limits approved for them on design-surveying work done under contract with clients, with a corresponding increase in the wage fund for this work, up to the wage fund limit and the limit on state capital investments and funds for scientific research for the USSR ministry (department) or republic as a whole (without changing interrelationships with the budget).

It is established that work on branch standardization of prefabricated-layout and structural resolutions and drawing up branch normative materials and price lists for the construction of buildings and installations, on developing branch systems of automated design, general city and rural population center plans, as well as work associated with performing the functions of lead and zonal design and territorial surveying organizations, can also be done within the indicated limits on design-surveying work. This work is to be financed through funds allocated for scientific research, from the unified science and technology development fund, and from Union republic budgets.

13. With a view towards reducing the time involved in working out design-estimate documentation and the volume of such documentation, it is established that enterprises, buildings and installations be designed:

in one stage -- a working design with summary estimates of the cost for enterprises, buildings and installations whose construction will be done following standard or reused designs, as well as for technically simple projects;

in two stages -- a design with summary estimates of cost and working documentation with estimates for other construction projects, including large or complex ones.

Designs are worked out directly on the basis of corresponding materials with necessary calculations made as part of the plans for developing and distributing branches of the national economy and branches of industry, as well as plans for developing and distributing productive forces by economic region and Union republic.

With consideration of engineering surveying and variant developments, the designs refine the site, planned capacity, cost of construction and other technical and economic indicators defined when the indicated plans were worked out.

In drawing up the working documentation for individual particularly complex projects, the planning organization include additional refinements in design materials.

In working out standard plans for projects of important national economic significance and individual designs for complex projects, individual technological, structural, architectural and other resolutions can be worked out, with the permission of the USSR Gosstroy, in several versions or on a competitive basis.

14. It is established that the estimated cost of construction of enterprises, buildings and installations, including the cost of construction-installation work, is determined in the summary estimated cost calculation as follows: for single-stage planning -- based on estimates for standard and reused, economical individual designs linked to local construction conditions and on estimates drawn up using working drawings; for two-stage planning -- based on consolidated estimate normatives, price lists and cost indicators of similar projects. In this regard, the estimated cost of individual projects is determined using estimates drawn up using working drawings. The approved estimated cost is the limit for the whole construction period.

The USSR Gosstroy is to work out and approve in 1981 methods instructions on determining the cost of construction of enterprises, buildings and installations and on drawing up summary estimates (with consideration of changes in price-forming factors) and an estimate oriented towards ensuring a correct determination of work cost and a reduction in the volume of estimate documentation. The instructions are also to outline a procedure for calculating commodity construction output, work done using the brigade contract method and other progressive forms of construction organization.

The leaders of ministries, departments and design organizations are to ensure the reliability of the estimated construction cost and are to view mistakes in determining it as violations of state discipline.

It is established that the estimated cost of construction of enterprises, buildings and installations based on design-estimate documentation must correspond to or be below the calculated cost outlined in the lists of new construction projects and the lists of existing enterprises and installations planned for renovation or expansion

which have been approved as part of the five-year plans, and other basic technical-economic indicators must correspond to or be improvements on the indicators in these lists.

15. Enterprises and installations to be built in sequence must be designed beginning with the development of the basic design resolutions necessary to draw up general plans for the project and to calculate construction cost for its full development, broken down by sequence element. In calculating project construction cost, consideration must be given to changes in price-forming factors which have occurred in connection with scientific-technical and social progress and environmental protection measures. The project general plan and calculating full construction development cost are included in the plan for construction of the first line. Plans for building subsequent lines are worked out on the basis of a project full-development general plan and are approved under the established procedure.

The sequence construction cost determined in the summary estimate calculations must not exceed the cost established in the project full-development construction cost calculation.

16. It is established that the project client agrees with the general contractor construction-installation organization on the design section on organizing construction of the project and also on the estimates drawn up based on the working drawings.

The general contractor construction-installation organization, with the involvement of the subcontractor organizations, reviews the indicated design and estimate materials and submits its observations to the client not more than 45 days from receipt of the materials. If such observations are not received within that time, the design-estimate documentation is considered agreed to and can be approved by the client.

Building and installation structural resolutions and the summary estimated construction cost are submitted by the client to the contractor organization for its agreement.

17. Design-estimate documentation for the construction of enterprises, buildings and installations which has been developed in accordance with the norms rules, instructions and state standards (which must be certified by a corresponding entry by the project's chief engineer in the design materials) is not subject to consent by state supervision agencies. Documentation made with substantiated deviations from existing norms, rules and instructions is subject to consent by the agencies and organizations which have approved as concerns those deviations.

State supervision agencies are to:

- establish in 1981 a procedure for reviewing design-estimate documentation with a view towards making consent to it by that agency necessary only once;

- work out and approve in 1981-1982, with the consent of the USSR Gosstroy, norms on maximum allowable discharges into the air and water sources, on noise, dust and other hazardous influences on enterprise workers and on the environment.

The USSR Gosstroy is to:

- establish in 1981 a procedure for and maximum time periods (averaging up to 15 days, or 30 days in certain instances) for obtaining the consent of state supervision agencies and concerned organizations to the design-estimate documentation;

publish, beginning in 1981, a list of existing normative documents associated with the design and construction of enterprises, buildings and installations which have been approved by state supervision agencies under the established procedure; this list must be used in working out designs.

18. It is established that plans for construction of the largest and most important enterprises, buildings and installations are approved by the USSR Council of Ministers upon submission by the USSR ministries and departments and the Union republic councils of ministers. Lists of these enterprises, buildings and installations are submitted annually to the USSR Council of Ministers by the USSR Gosplan, USSR Gosstroy and USSR State Committee for Science and Technology.

The indicated plans are preliminarily submitted by USSR ministries and departments and Union republic councils of ministers to the USSR Gosstroy, USSR Committee for Science and Technology and USSR State Price Committee for expert appraisal. The summary expert conclusions are submitted to the USSR Council of Ministers by the USSR Gosstroy with the concurrence of the USSR State Committee for Science and Technology and the USSR State Price Committee.

19. Plans for the construction of enterprises, buildings and installations (except for plans approved by the USSR Council of Ministers) are subjected to expert appraisal and are approved:

for construction projects with a full-development estimated cost of three million rubles or more -- by USSR ministries and departments (for all construction projects in their systems) and Union republic councils of ministers (design expert appraisal being done by Union republic gosstroys);

for construction projects with full-development estimated cost of less than three million rubles -- under the procedure established by the USSR ministry (department) or Union republic council of ministers;

for construction projects being built using the funds of cooperative (except for kolkhozes) and other public organizations -- under the procedure established by the central cooperative or other public organizations;

for construction projects being built using kolkhoz funds -- under the procedure established by the Union republic councils of ministers.

20. With a view towards improving the planning of design-surveying work and intensifying quality control and the monitoring of the technical-economic level of planning, USSR ministries and departments, Union republic councils of ministers, central cooperative and other public organizations are obligated to:

secure skilled personnel for the subdivisions involved in planning design-surveying work and in expert appraisals and estimates; improve their work efficiency;

submit to the USSR Gosstroy, beginning in 1981, a certificate of the designs approved by them (except for defense project plans).

Prior to 1 July 1981, the USSR Gosstroy, USSR State Committee for Science and Technology and USSR State Price Committee are to submit to the USSR Council of Ministers suggestions on improving the activity of agencies providing expert appraisals on designs and estimates, with a view towards increasing their role in ensuring a high technical-scientific level and good economy in the designs being developed.

21. USSR ministries and departments and Union republic councils of ministers are not to permit the construction of projects using obsolete designs, and the conformity of the design resolutions being adopted to modern technical standards is to be checked

prior to the inclusion of enterprises, buildings and installations in a capital construction plan.

22. It is established that for enterprises and installations included in a capital construction plan whose designs have been approved by USSR ministries and departments and Union republic councils of ministers, design resolution changes associated with an increase in capacity and a review of output products lists must be agreed to by the USSR Gosplan and USSR Gostroy, as well as by the general contractor organization (as concerns construction organization and changes in estimates drawn up using working drawings).

23. The USSR Gosstroy is to:

work out, with the participation of concerned USSR ministries and departments and Union republic councils of ministers, and approve in 1981 instructions on drawing up, procedures for developing and coordinating designs and estimates for the construction of enterprises, buildings and installations with consideration of changing over to calculations between clients and contractors for fully finished construction and enterprises, lines, start-up complexes and projects released for operation, output ready for release or services ready to be rendered, including designs and estimates for the construction of enterprises and installations which could not be ready to release output or render services for two years or more;

work out, on the basis of USSR ministry and department proposals, and approve in 1981-1982, jointly with the USSR Gosplan, unified norms on the duration of enterprise, building and installation design and construction and on utilizing designed capacities for various branches of the national economy and branches of industry.

24. The USSR Gosstab, USSR Gosplan, ministries and departments distributing output are, in 1981, to review, with the concurrence of the USSR Gosstroy and State Arbitration Commission attached to the USSR Council of Ministers, the composition of documentation developed on the basis of designs and submitted upon demand to material and technical supply agencies for ordering equipment, monitoring, automation and communication devices, special fittings and materials, with a view towards reducing the volume of such documentation, refining schedules for submitting it, and simplifying the procedure for agreeing to it.

The USSR Gosstab is to prepare and submit prior to 1 April 1982 to the USSR Gosstroy proposals on including documentation on questions of construction project material-technical supply organization in project construction plans being worked out.

25. The USSR State Committee for Science and Technology and USSR Gosstroy, jointly with the USSR ministries and departments and Union republic councils of ministers, is to work out measures to improve the system of informing design and surveying organizations about achievements of domestic and foreign science and engineering in the field of production technology, means of mechanization and automation, production and technological process management, and leading methods of construction.

26. The machine-building ministries are obligated to fill ministry and department work orders on designing machines and complex technological equipment for one-time (single) orders with a long manufacturing cycle for enterprises to be designed and built (expanded, renovated, retooled) prior to the opening of titles lists for their design, using client funds allocated especially for these purposes, within the established limits on state capital investments, as well as experimental design work on

new and modernized equipment through the unified client science and engineering development fund and to supply clients with initial data needed to design the projects.

Client ministries and departments are permitted to supply machine-building ministries with initial specifications on the design and manufacture of the indicated equipment for projects included in the list of construction projects approved as part of five-year plans and the list of designs being developed.

The USSR Gosstroy, USSR Gosplan, USSR State Committee for Science and Technology and USSR Stroybank are to establish within three months a procedure for allocating funds for this work, for financing them, as well as for subsequent inclusion of expenditures on equipment anticipated in summary estimates on the construction of corresponding projects.

27. The USSR State Committee for Science and Technology is to convert the State Scientific Research Institute of Scientific and Technical Information of the Association to Supervise Scientific-Technical Information and Propaganda in the RSFSR into the All-Union Equipment Information Center of the USSR State Committee for Science and Technology and to include in it a department of industrial catalogs of the USSR State Public Scientific-Technical Library. This center is to be entrusted with:

state registration and recording of equipment being produced, to be produced and being withdrawn from production, as well as preparing information on that equipment and on equipment catalogs being published by the ministries and departments;

maintaining a reference-information service for interested enterprises and organizations, using automated data storage, search and duplication systems.

It is established that, beginning in 1982, all equipment being produced, intended for production and being withdrawn from production will be subject to state registration in the All-Union Equipment Information Center under a procedure established by the USSR State Committee for Science and Technology.

The USSR State Committee for Publishing Houses, Printing Plants and the Book Trade is to ensure publication of information materials of the All-Union Equipment Information Center.

The USSR State Committee for Science and Technology, jointly with the Moscow gorispolkom, is to decide within three months the question of a location for the All-Union Equipment Information Center and, jointly with the USSR Gosplan and USSR Gossnab, is to decide the question of providing this center with the necessary reading-copying and duplicating equipment in 1981-1985.

The USSR State Committee for Science and Technology is to create the following as part of the Association to Supervise Scientific-Technical Information and Propaganda in the RSFSR:

a Moscow Oblast Territorial Scientific-Technical Information and Propaganda Center based at a branch of the State Scientific-Research Institute of Scientific and Technical Information (in Lyubertsy);

a Moscow City Territorial Scientific-Technical Information and Propaganda Center staffed by workers of organizations of the USSR State Committee for Science and Technology who are located in Moscow.

28. The USSR State Price Committee is to ensure, jointly with machine-building ministries, the regular publication of price limit handbooks for structurally homogeneous

groups of nonstandardized equipment and new technological equipment, beginning in 1981.

29. It is established that the USSR Gosstroy will exercise methods supervision of engineering surveying for capital construction.

Normative documents associated with the design, engineering surveying and construction of enterprises, buildings and installations which are approved by USSR ministries and departments, state supervision agencies and public organizations in accord with the rights granted them are subject to the concurrence of the USSR Gosstroy.

30. The USSR Gosstroy and Union republic councils of ministers are to take steps to increase the responsibility of Union republic gosstroys for conducting a unified technical policy in construction done on republic territory, for improving the architectural appearance of cities, industrial centers and settlements, for improving the quality of industrial, housing, civil and other types of construction, and for improving the quality of enterprise, building and installation design.

31. The USSR Gosstroy is to:

a) approve, with the concurrence of the USSR Gosplan and Union republic councils of ministers, a list of territorial design organizations and a provision on them which anticipates a greater role for these organizations in solving problems connected with developing territorial-production complexes, industrial centers and enterprises; exercise methods and organizational leadership of the activity of these organizations. Jointly with the USSR Gosplan and USSR Ministry of Finance, determine sources and procedures for financing the work of these organizations which is associated with performing their functions;

b) develop in 1981, with the participation of USSR ministries and departments and Union republic councils of ministers, and approve provisions on lead and territorial surveying organizations, a list of these organizations, and also a price handbook for surveying work for capital construction;

c) submit under the established procedure a proposal on publishing a PROYEKTIROVANIYE I INZHENERNYYE IZYSKANIYA [Design and Engineering Surveying] magazine beginning in 1981, anticipating a needed reduction in the amount of abstract materials on design and engineering surveying which are being published by the USSR Gosstroy and the construction ministries.

32. It is established that:

the project client, the director and chief engineer of the planning organization and the chief engineer and chief architect of the project bear responsibility throughout the entire planning and construction period for the technical and economic indicators of the enterprises, buildings and installations being built, for the quality of the designs, for correctly determining the estimated cost and sequence of construction, for the prompt development and completeness of design-estimate documentation sent to the contractor organization;

the client, general contractor, general equipment supplier and design organization bear appropriate responsibility for carrying out the construction according to the design and approved estimated cost and for utilizing designed capacities within the established time periods.

33. With a view towards increasing the economic independence of design and surveying organizations and putting their production and financial activity in proper order:

a) in 1981, the USSR ministries and departments and Union republic councils of ministers are to finish transferring subordinate design and surveying organizations, as well as the design portions of multipurpose scientific research and planning organizations, to the new system of planning and economic incentives in conformity with CPSU Central Committee and USSR Council of Ministers Decree No 390 of 28 May 1969;

b) the USSR Ministry of Finance and USSR Gosplan, with the participation of the USSR Gosstroy, are to establish economically substantiated norms for planned profit and wage fund proportion of design-surveying work for the five-year plan and for corresponding years for USSR ministries and departments and Union republics, beginning with the 11th Five-Year Plan;

c) with the concurrence of the USSR Gosplan, the USSR Ministry of Finance is to increase USSR ministry and department and Union republic council of ministers limits on official-duty business trip expenses for workers not in the management apparatus if those trips are connected with collecting initial data and materials for surveying and design, with inspecting existing enterprises, buildings and installations to be renovated, expanded or retooled, with authorship supervision of construction, with rendering enterprises, construction sites and planning organizations technical assistance, with drawing up orders and agreeing with enterprises on equipment delivery terms, or with the development of working drawings directly at construction sites. Expenditures on such business trips must be made within the direct expenditures anticipated in estimates on design and surveying organization maintenance for the planning year;

d) beginning in 1982, USSR ministries and departments and Union republic councils of ministers are to conclude agreements on the development of designs for the construction of enterprises, buildings and installations for the entire planning period and are to finance design-surveying work continuously, within the sums anticipated for these purposes in the approved estimates;

e) it is established that calculations between clients and design and surveying organizations for completely finished enterprise, building and installation construction plans accepted by clients are to be made under the procedure established by the USSR Gosstroy, USSR Gosplan, USSR Ministry of Finance, USSR Stroybank and USSR Gosbank.

The economic activity of design and surveying organizations is to be evaluated and economic incentives for them are to be set on the basis of results in carrying out assignments in terms of releasing enterprise, building and installation construction projects which are completely finished and accepted by clients, other planned output, and on the basis of profit.

In those cases when design and surveying organizations do not have assignments for releasing finished projects and other planned output to clients or for profit in individual quarters (or when the assignments are insignificant), the activity of these organizations is to be evaluated on the basis of results in performing through their own efforts the design-surveying work volume established by the plan; the financial plans of design and surveying organizations are to anticipate that planned expenditures and that portion of the material incentives fund expenditures not covered by budgeted profit are to be covered through savings achieved by lowering the net cost of unfinished design-surveying work;

f) it is established that the following will be effected using state budget funds: drawing up plans for developing and distributing branches of the national economy and branches of industry, plans for developing and distributing productive forces by economic region and Union republic, with all the substantiating materials;

development of standard design documentation for interbranch application, standard construction components, items and subassemblies, general plans for interbranch industrial centers, and unionwide normative documents and standards;

designing experimental structures, buildings and installations;

development of comprehensive programs for automating design work and providing programs for automated interbranch planning;

studying and generalizing domestic and foreign experience in the area of design and construction;

development of regional layout plans, plans for laying out and building up cities, urban-type settlements and rural population centers;

drawing up maps of seismic microregions for cities and other population centers;

development of protective-zone plans and plans for protecting territories and population centers from dangerous geological processes.

34. The USSR ministries and departments and the Union republic councils of ministers are to take steps to increase the responsibility of officials for the prompt, correct development of design-surveying work plans, to view the presence of design-estimate documentation which is not being used in construction as a violation of planning discipline and as mismanagement.

The USSR Central Statistical Administration is to supplement reporting by USSR ministries and departments and Union republic councils of ministers on capital construction with data on the presence and use of developed design-estimate documentation.

35. USSR ministries and departments and Union republic councils of ministers are granted the right to:

a) permit planning-design offices, bureaus, groups, departments and other subdivisions created in production associations, at enterprises and in organizations and institutions to work out, with the concurrence of the general planning organization, design documentation on the retooling and renovation of shops and sectors, improvement in individual technological processes, mechanization of heavy and labor-intensive work, on renovating utility lines and installations, as well as plans for work which includes mandatory observance of existing norms and rules for planning and construction, within the wage fund anticipated in plans for basic activity, when necessary;

b) when determining work volumes for subordinate lead design and surveying organizations, anticipate expenses connected with consultations, technical assistance to other design and surveying organizations, and performing other functions of the lead organization. The indicated expenses must not exceed 0.5 percent of the overall limit on design-surveying work established for the ministry (department) as a whole;

c) permit client enterprises and organizations to involve design organizations in performing, on a contractual basis, work connected with providing construction sites with complete sets of equipment.

36. The USSR Gosstroy, USSR Gosplan and USSR Stroybank are to develop, with the participation of concerned USSR ministries and departments, and approve in 1981 instructions on the procedure for compiling and coordinating construction organization and work production plans, anticipating in them the extensive introduction of efficient forms of construction production organization and the compilation of comprehensive network schedules, based on construction duration norms, which ensure a reduction in construction time for projects and higher labor productivity.

37. In 1981, the USSR Gosstroy is to create a central institute, based at one of its subordinate planning institutes, for the methodology, organization, economics and automation of design and engineering surveying, without increasing the number of USSR Gosstroy design and scientific-research organization workers in Moscow.

38. The USSR Gosplan, USSR Gossnab and USSR ministries and departments are, beginning in 1982, to anticipate the production and delivery of equipment, computers (including the necessary peripheral devices), tools, hardware and materials, in accord with a products list agreed to by the USSR Gosstroy, for equipping design and surveying organizations in their five-year and annual plans.

The USSR Gossnab is to resolve in 1981 the question of procedures for providing design and surveying organizations with complete sets of equipment, machinery, tools, apparatus, material, furniture and inventory.

39. The Ministry of Instrument Making, Automation Equipment and Control Systems is to set up series production of equipment, tools, inventory and office equipment at subordinate enterprises in 1981 based on a products list agreed to by the USSR Gosstroy for equipping design and surveying organizations, entrusting these enterprises with the functions of lead enterprises for developing the indicated output (with consideration of leading domestic and foreign experience).

The USSR Ministry of Timber, Pulp and Paper, and Wood Processing Industry is to manufacture special furniture and inventory to equip design and surveying organizations in accord with a products list agreed to by the USSR Gosstroy, beginning in 1982.

40. The USSR ministries and departments and the Union republic councils of ministers are to anticipate in the 11th Five-Year Plan the allocation of capital investments for the construction (expansion) of design and surveying organization buildings with a view towards placing the workers of these organizations in accordance with existing norms in this five-year plan.

41. The USSR Gosstroy, USSR State Committee for Labor and Social Questions, USSR Gosplan, USSR State Committee for Science and Technology, USSR Ministry of Finance, USSR State Committee for Foreign Economic Ties, USSR Stroybank, USSR Gosbank and the AUCCTU are obligated to review the current procedure for creating economic incentives and material incentives funds for workers of design and surveying organizations, technological planning trusts (institutes) of the "Orgtekhstroy" ("Orgstroy") in 1981 with a view towards awarding bonuses for the development of design-estimate documentation which anticipates first of all:

- maximum use of the achievements of scientific and technical progress;

- use of the most efficient prefabricated-layout and structural resolutions in buildings and installations, effective production technology and leading construction-installation organization, which ensure a reduction in the materials-intensive-ness and cost of construction and higher labor productivity in the branch;

- efficient use of natural, labor and material resources, especially fuel and energy;

- maximum use of standard and reused designs and progressive design resolutions.

The USSR Gosstroy is, with the participation of concerned USSR ministries and departments, to work out and approve in 1981 methods for evaluating the quality of design-estimate documentation.

42. It is established that the savings obtained by a design (surveying) organization as a consequence of lowering the cost of work it has done by using standard or reused economical individual designs instead of developing individual designs as anticipated by a planning assignment is to be counted in design-surveying work plan fulfillment.

The USSR Gosstroy, USSR Ministry of Finance, USSR State Committee for Labor and Social Questions, USSR Stroybank and USSR Gosbank are to determine the amount and procedure for calculating that portion of the savings to be placed at the disposal of the design (surveying) organization.

43. The USSR Ministry of Higher and Secondary Special Education, with the concurrence of the USSR Gosplan and USSR Gosstroy, is to carry out measures to train specialists for work in design and surveying organizations with a view towards significantly expanding instruction in the disciplines of planning, surveying, estimating, price formation, construction production organization, and also the use of computer equipment in design.

The USSR Gosstroy, jointly with the USSR State Committee for Labor and Social Questions and the USSR Ministry of Finance, is to work out and submit to the USSR Council of Ministers in 1981 measures to secure design and surveying personnel (including those employed in the field).

44. The USSR Ministry of Justice, USSR Gosstroy and USSR Gosplan are, with the participation of the USSR Gosnab, USSR Ministry of Finance, USSR Stroybank and USSR Gosbank, to prepare and submit to the USSR Council of Ministers in 1981 proposals on changing the existing legislation to reflect the content of this decree.

The CPSU Central Committee and USSR Council of Ministers express their confidence that the central committees of the Union republic communist parties, the kray, oblast and city party committees, the USSR ministries and departments, the Union and autonomous republic councils of ministers, the ispolkoms of local Soviets of People's Deputies and the collectives of design, surveying, construction and installation organizations will make every effort to carry out this decree and to resolve the tasks set by the 26th Party Congress in the field of capital construction.

CPSU Central Committee Secretary L. Brezhnev
USSR Council of Ministers Chairman N. Tikhonov

Moscow, Kremlin, 30 March 1981, No 312.

11052
CSO: 1821/108

CONSTRUCTION

NEED TO CONSOLIDATE CONSTRUCTION AND INSTALLATION ORGANIZATIONS DISCUSSED

Moscow FINANSY SSSR in Russian No 5, May 81 (signed to press 10 Apr 81) pp 35-36

[Article by K. Rozykulyyev, administrator of the Chardzhouskaya oblast bureau of USSR Stroybank [Construction Bank]: "Consolidate Construction and Installation Organizations"]

[Text] The tasks which are outstanding in the area of capital construction are bringing about the necessity of reducing the number of small contract organizations and of developing a network of industrial associations that build and put capacities and structures completely in operation.

In accordance with the CPSU Central Committee and USSR Council of Ministers' decree "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality" USSR ministries and departments and union republic councils of ministers have to work out and implement measures for transferring to the two and three unit system of managing capital construction during the years of 1979 to 1981. Industrial construction and installation associations--and in certain cases trusts--must become the principal cost accounting unit in construction production.

In October 1978 USSR Gosstroy and Gosplan had already approved the Instructions Concerning the Procedure for Ministries and Departments to Work Out Systems for Managing Construction. In addition on 6 November 1979 USSR Gosstroy approved Provisions for a Construction and Installation Association Which Determine its Structure, Programs, Rights and Obligations.

Workers in the Chardzhouskaya bureau have analyzed the organizational structure and methods of managing construction that have taken form in the oblast in order to uncover facts about duplication in the activities of organizations and to discover the potentials in concentrating trusts and consolidating the primary construction and installation organizations.

This was preceded by a certain amount of work. Based on the annual statistical report of trusts, primary contract organizations and the oblast statistical administration, construction organizations were grouped according to their principal indicators beginning with the annual volume of work that they do with their own resources; the technical and economic indicators of the contract organizations in the various ministries were compared and thematic and selected testing was done.

Data from all 75 contract organizations in the oblast, which are under the jurisdiction of 17 union-wide, union republic or republic ministries and departments and also state committees, were taken for the analysis. Eleven of these 17, or 64.7 percent, are non-construction ministries, departments or committees. They have dwarfish primary contract organizations whose annual volume of work completed by their own resources does not exceed 1.5 million rubles. The construction management system that has taken form in the oblast is complicated, contains many units, and has different forms.

In 1972 Mobile Mechanized Column (PMK) No 1 was formed and two years later PMK No 3 in the Turkmen SSR Ministry of Communications. Their annual planned volume of work to be completed by their own resources comprises only 0.7 million rubles. In March 1977 PMK 97 in the republic's Ministry of Construction appeared with a planned volume of work to be completed by their own resources of about one million rubles, and at the beginning of January 1980 Construction and Installation Administration No 1 for providing a gas supply in Chardzhouskaya oblast in the State Committee for Providing a Gas Supply in Turkmen SSR with a volume of work of 0.8 million rubles. There are 37 (almost 50 percent) of these small primary contract organizations. In recent years they were continually being formed.

As is well known, large contract organizations require less administrative and management personnel. For example, organizations with an annual volume of work greater than 2.5 million rubles have about 11 individuals per 1 million rubles while those that have an annual volume of work up to 1 million rubles have about 47 individuals. There is an analogous situation with the number of workers as well.

One of the potentials for increasing construction efficiency is to improve the return on investment. Its increase depends directly on the accuracy and organization of the collective's work and on labor discipline. In large oblast contract organizations the return on investment is greater: with an annual volume of work up to 1 million rubles it is 1 ruble 31 kopecks and with an annual volume greater than 2.5 million rubles it is 1 ruble 57 kopecks. The efficiency of concentrating construction and installation organizations in large territorial construction and installation associations is obvious.

Finance employees in the oblast have persistently worked to promote the consolidation of small construction organizations. The first steps have been made toward consolidation. Territorial and municipal-type trusts like "Turkmenvostokneftestroy" in 1980 and "Chardzhoukhimstroy" in 1981 were reorganized into trust areas. But this, certainly, is only the beginning.

It seems that the merger of construction-installation and other organizations in our oblast's construction industry into a single high capacity association will produce a great economic effect. The relative number of ITR [technicians for the supervision of production process], office workers, and junior service personnel required for one million rubles worth of construction and installation work has been perceptibly reduced.

The formation of a construction and installation association within the oblast's territory in the city of Chardzhou will play an important role in increasing the efficiency of capital investments and in improving construction management.

COPYRIGHT: "Finansy SSSR", 1981

9495

CSO: 1821

CONSTRUCTION

NEW LASER USED IN SURVEY WORK FOR CONSTRUCTION

Kiev RABOCHAYA GAZETA in Russian 17 May 81 p 1

[Article by N. Khotskiy, correspondent for RATAU [Ukrainian Telegraph Agency]:
"A Laser in the Construction Worker's Overalls"]

[Text] The success that was achieved by the collective is associated with the application of an advanced system of geodetically ensuring the erection of tall structures that was proposed by the Scientific Research Institute of Construction Production (NIISP) in the UKSSR Gosstroy.

"The innovation substantially simplified and accelerated our 'geodesy,'" says S. G. Logvinov, deputy director of the administration. "In addition the devices are convenient to use and do not require particularly special knowledge. Each of us can easily put the apparatus into working order. This means that two people who previously were engaged in taking measurements the entire shift are freed to work directly on the assembly operation."

"Specialists in the laser technological institute created a good assemblage," Chief Engineer S. P. Pavalskiy persuaded me. "It is important that they are sensitively responding to the wishes and comments of construction workers and persistently working side by side with us to perfect the system. We are grateful to candidates of technical sciences B. G. Rukosuyev and M. M. Reznik, and fellow workers P. M. Yatsyk and P. Ye. Grigorovskiy--to all who are involved in the development process. Thanks to their efforts the psychological barrier in adopting it was also easily overcome. People quickly realized the advantages and the promising nature of the advanced system and willingly accepted it as part of their equipment. It has already been used at structures in Lisichansk, Severodonetsk and other industrial centers where employees in our administration are working."

"The basis of the system is a laser zenith aligner--a device which operates on the principle of matching a reflected beam with a fixed one. The apparatus is set up near the structure's foundation and, after turning it on, a beam is sent to the elevation where the assembly work is going on and to a screen--an optical mirror placed parallel to the horizon. By the aid of the lifting screws with which the emitter is equipped its position is derived when the reflected 'sunbeam' coincides with the eyepiece of the laser tube. This confirms that an almost perfect beam match up has been formed. Projected at the given level by a vivid red dot it makes it possible to assemble structures with a tolerance no greater than 5 mm in 100 meters of elevation.

Enviably accurate! And along with this and other advantages over optical instruments inherent in the device is exceptional reliability when operating under the most complex conditions. For the 'red arrow' neither dust nor rain nor darkness is a hindrance."

"The development of the laser geodesic system was presented at the UkSSR VDNKh [Exhibition of USSR National Economic Achievements] and awarded a first place diploma at the exhibition," says Deputy Director of the Institute A. A. Khudenko. "The 'Geography' of the use of our zenith aligners, sighting devices, theodolites and other beam apparatuses is ever expanding. This is aided by close contact of the recently formed laser technology sector with manufacturing. We have established fruitful contacts with collectives in Donetsk, Dnepodzerzhinsk, Krivyy Rog, Nikolayev, Rovno, Kherson, and Uzhgorod where tall industrial structures are being erected. Cooperation with the 'Ukrainian Industrial and Special Construction' Combine is very helpful. The new measuring apparatuses owe much of their current level of effectiveness to the joint efforts of V. I. Gladkiy, deputy director of the combine, and fellow workers in the institute, L. A. Kosolap and V. N. Korunchak."

"After the solution to the problem of serial production of laser 'geodesists' we are turning our attention to their use on a comprehensive scale."

The tasks for further adopting laser technology in construction have been defined by one of the republic's overall special purpose programs that were worked out in accordance with the resolutions of the 26th Ukrainian Party Congress. The capabilities of the "red beam" are expected to be used when erecting tall housing units, for laying underground utility lines and for controlling construction and road machines. The laser is substantially improving labor productivity and industrial efficiency.

9495

CSO: 1821

CONSTRUCTION

INTERNATIONAL EXHIBITION OF CONSTRUCTION TECHNOLOGY DISCUSSED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 11 Jun 81 p 1

[Interview with V. Chudin, minister of Construction, Road and Municipal Machine Building: "Technology for Construction Workers"]

[Text] The international exhibition "Construction and Road Machinery-81" is beginning its operations today in Moscow. Native industry and more than 300 foreign firms will show construction and road machinery, means of mechanizing construction and installation work, equipment for producing building materials and technology for cleaning and sanitation measures in cities at the USSR VDNKh [Exhibition of USSR National Economic Achievements] and at the stands of the exhibition complex in Sokol'niki. Here is what Minister of Construction, Road and Municipal Machine Building V. Chudin says about the purposes and aims of this review.

As is any international exhibition the forthcoming review of construction and road technology is summoned to promote an exchange of scientific and technical expertise between scientists and specialists from various countries, establish business contacts and develop trade relations.

As is well known, construction problems were given increased attention in comrade L. I. Brezhnev's report at the 26th CPSU Congress and in the Principal Directions approved by the Congress.

A successful completion of the five-year plan programs requires modern construction and road technology that has high productivity, reliability and simplicity of use and service. How prepared are we to provide just such technology? The exposition at the Soviet section of the exhibition, where about 700 models will be demonstrated, should answer this question to a considerable degree.

Many of them meet the highest standards. These are, for example, a completely mechanized complex for laying superior quality highways comprised of 10 machines on pneumatic wheels and caterpillar tracks. Following one another they provide 1 to 1.5 kilometers of finished roadway per shift. In other words, their productivity is greater by a factor of 10 when compared with the rail machines that were previously used.

Qualitative changes have also occurred in the technology for land reclamation and irrigation construction. More than 50 highly efficient models that make up the systems of machinery were developed and put into serial production during the years of the 10th Five-Year Plan. For example, a complex of machines for laying plastic drainage pipes with a diameter of up to 120 mm without using the trench method are presented at the exhibition. The last thing mentioned will make it possible to keep the fertile surface layer of soil intact which will provide no small gain for agriculture. The depth at which pipes are laid may reach 1.8 m. The complex is equipped with a laser indicator of the proposed slope which substantially simplifies laying out a drainage network and establishing an exact line and reduces labor consumption for these operations by a factor of three to four.

Technology for the construction of petroleum gas pipelines occupies a special place in the soviet section of the exhibition. The ETR-223 rotor excavator, which is capable of working ground that is frozen to a depth of up to one meter, is most noticeably among those at it. The depth of the trenches that are excavated by it can reach 2.2 m, the width excluding the slopes 1.5 m and with the slopes, 2.4 m. The maximum productivity of this machine is 650 cubic meters of ground per hour.

Other excavating machines, mechanisms for holding and aligning pipes, welding equipment and means of controlling welded joints, and pipe runner carrying vans with increased passability are also demonstrated. Among the pipe laying machines, the "TG-502" machine from the Sterlitamak plant with a load lifting capacity of 50 tons and the experimental "TG-802" pipe layer with a load lifting capacity of 80 tons stand out.

Voronezh, Kalinin and Kovrov machine builders are showing hydraulic excavators at the exhibition, the serial output of which will begin in the very near future. The working parts on these machines are mounted on a tractor type caterpillar chassis which makes it possible to increase the length of service before the first capital repairwork by a factor of two to three.

It is impossible not to notice that modern excavators are equipped with interchangeable working parts, the number of which is constantly increasing. The innovations among this equipment are, in particular, hydraulic hammers that make it possible to pulverize large blocks of rock and concrete and to cut open old asphalt on roads. Subsurface pressure scoopers on a telescoping arm are of great interest with the aid of which it is possible to build the underground portions of industrial and civil buildings, bulkheads and enclosures, wells and collectors without opening foundation pits.

The problem of manufacturing modern complexes of machines for mechanizing finish work and electrical and pneumatic hand tools was justifiably raised at the 26th party congress. In recent years 72 new models of this kind of technology were created and the process of expanding their production is going on. It is projected that during the course of the five-year plan capacities will be put into operation for this at four new plants and at the same time reconstruction will be done at operating enterprises in the "Soyuzstroyinstrument" Industrial Association. We hope for more active assistance here than today by the construction workers themselves who need this new technology.

Together with the review of the achievements of native science and practice the "Construction and Road Machinery-81" exhibition will visually demonstrate the advantage of socialist economic integration and the fruitfulness of the mutually advantageous collaboration of the member countries of SEV [Council for Mutual Economic Aid]. The Ministry of Construction, Road, and Municipal Machine Building alone is doing work based on 22 two-party and multiparty agreements for specialization and cooperation in manufacturing. International scientific and manufacturing associations and joint structural bureaus have been formed and are fruitfully operating, examples of which are the Soviet and Bulgarian NPO [Scientific Production Association] "Elektroinstrument," the Soviet and Polish KB [Design Bureau] for self-propelled hydraulic cranes with a load lifting capacity from 25 to 100 tons, and other organizations. The results of their activities will be shown at the exhibition.

There are quite a few interesting innovations presented in the expositions of the capitalist countries as well. The composition of the participants visually speaks about this, among whom are firms from Austria, Belgium, Great Britain, Denmark, Spain, Italy, the Netherlands, the USA, Finland, France, the FRG, Switzerland, Sweden, and Japan. An international symposium where Soviet and foreign specialists will give reports will be conducted within the framework of the "Construction and Road Machinery-81" exhibition.

We hope that the exhibition which is opening will serve to further broaden cooperation between various countries in the name of peace, progress and happiness for all the peoples of the planet.

9495

CSO: 1821

CONSTRUCTION

PROBLEMS WITH MECHANIZED TOOL SHORTAGE DISCUSSED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 Jun 81 p 1

[Article: "Tools for Construction Sites"]

[Text] Crew foremen K. Sergeyev, V. Bobrova, M. Dubentsov, N. Tropin, and other construction workers addressed the editorial staff of SOTSIALISTICHESKAYA INDUSTRIYA with the complaint of the low quality and lack of construction tools. This newspaper, together with the Central Committee of the sector's trade union, invited representatives of interested ministries and departments to discuss these letters. A report of the conference that took place was published in our newspaper 13 March of this year.

The questions that were raised in the article "Tools for Construction Sites" were reviewed in the USSR Council of Ministers. It was noted that the article correctly reflects the great shortages in providing construction sites with construction and installation tools, in connection with which the level of mechanization of manual labor remains low, especially for finish work. The Ministry of Construction, Road and Municipal Machine Building, the Ministry of the Machine Tool and Tool Building Industry and the Ministry of the Defense Industry did not take proper measures for manufacturing tools of suitable quality and a substantial portion of these products does not correspond to existing standards and technical levels. The Ministry of Construction, Road and Municipal Machine Building, the USSR Ministry of Construction of Heavy Industry Enterprises and the USSR Ministry of Industrial Construction permitted considerable foot dragging in fulfilling the programs for creating capacities to increase production of tools and finishing machinery. The USSR Ministry of Construction is not doing satisfactory work to expand the Vyborg "Elektroinstrument" plant.

The USSR Council of Ministers assigned the Ministry of Construction, Road and Municipal Machine Building in collaboration with the Ministry of the Machine Tool and Tool Building Industry, the Ministry of Chemical and Petroleum Machine Building, the Ministry of Tractor and Agricultural Machine Building, the Ministry of Heavy and Transport Machine Building, the Ministry of the Defense Industry, and other ministries and departments whose enterprises turn out tools, and also with participation by suppliers of completely equipped products and materials (the USSR Ministry of Ferrous Metallurgy, the Ministry of the Electrical Equipment Industry and other ministries) to review the entire set of problems that are associated with improving the quality of tools and finishing machinery. It is suggested that the ministries named work out and implement specific measures for eliminating the deficiencies noted and report about the results to the USSR Council of Ministers by 1 October 1981.

It was also noted that the State Committee for Standards and USSR Gosstroy are occupied to an extremely insufficient degree with the problems of controlling the quality of construction and installation tools. This state committee was charged with organizing systematic tests of the quality of tools and finishing machinery, banning the production of those that are of poor quality and exacting the full measure of sanctions.

Attention was given to the USSR Ministry of Heavy Construction (comrade Goldin); the USSR Ministry of Industrial Construction (comrade Tokarev); and the Ministry of Construction; Road and Municipal Machine Building (comrade Chudin) and to their unsatisfactory fulfillment of the plans for the construction of enterprises that turn out tools and machinery for finish work during the years of 1976 to 1980. It is suggested that these ministries take measures for accelerating construction after ensuring the total overall erection of structures intended for industrial and civil housing purposes and to report on the results of the work for the first half year to the USSR Council of Ministers.

It is suggested that USSR Gosplan (comrades Ryzhkov and Isayev) together with the Ministry of Construction, Road and Municipal Machine Building review the problem of developing capacities for producing construction and installation tools and finishing machinery, with the idea being to specify the programs for building up capacities in the draft of the plan for the years 1981 to 1985 in accordance with the resolutions that were adopted earlier. That USSR Gosplan (comrade Slyun'kov) and USSR Gossnab (Comrade Ksintaris), with participation by interested ministries and departments, review the problems of providing industries with completely equipped products and materials. USSR Gossnab is charged with implementing measures that will not allow organizations to accept material and technological supplies of construction and installation tools that are of poor quality.

9495

CSO: 1821

CONSTRUCTION

GIANT EARTH-MOVING MACHINERY DESCRIBED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 Jun 81 p 2

[Article: "A Family of Giants"]

[Text] If the topic is to be about shifting the waters from Siberian rivers to southern rayons machines in this family will be simply indispensable. Yes, they are impatiently awaited even today at the largest construction sites in the country. And in the meantime, to the surprise of many, they arrived at the exhibition from Minsk under their own power. Although their route, to speak frankly, was not an easy one; not every bridge by far is capable of supporting the bulky thing, its own weight being more than 70 tons! But specialists notice something else: these machines which are not adapted for such fast movement went the entire route without breakdowns.

What kind of machines are these? The most powerful in the family is the "DZ-107" self-propelled scraper on a special wheeled chassis. Its bucket is capable of biting into ground almost a half meter deep, holding up to 25 cubic meters of mass and can convey it a distance of up to 3 kilometers. The scraper is equipped with two motors having a total of 1,100 horsepower for this, one of which is located next to the driver's cab and the second one behind and remote controlled. Although the weight of the machine with a full bucket can reach 110 tons it operates well on very rugged terrain and marshy ground. And it can build up to a speed of 50 kilometers an hour on a hard roadway.

The "DZ-113" wheeled bulldozer-loosener was created on the basis of the same assemblies and units and is a match for its fellow machine. Its moldboard with a width of almost 5 meters is able to move huge masses of ground. The engine is 550 horsepower and the weight of the machine is 63.5 tons. It would seem as if such a massive thing simply could not overturn. Nonetheless the driver's cab is equipped with a heavy duty protective device.

Another type of machine is a part of this family of superpowerful technology--a wheeled loader for especially heavy work. With its own weight being 60 tons it can raise up to 15 tons of ground or mountain mass to a height of 5 meters. One such machine is capable of replacing 4 to 5 of the loaders that have been used up to the present time. Really, with such technology it is even possible to turn back rivers.

9495

CSO: 1821

CONSTRUCTION

HIGH CONSTRUCTION OFFICIAL POINTS OUT DESIGN PROGRAM DEFICIENCIES

Moscow IZVESTIYA in Russian 30 Jun 81 p 2

[Article by I. Novikov, Deputy Chairman of the USSR Council of Ministers and Chairman of USSR Gosstroy: "Construction Projects Need Modern Designs"]

[Text] Builders, like all our country's workers, are now working in an environment of enormous political and labor upsurge brought on by the decisions of the 26th CPSU Congress. They are directing their efforts toward successful implementation of the grand program for peace and construction.

Much is to be done during the new stage of creating the supply and equipment base for communism. Comrade L. I. Brezhnev noted at the party congress that there are problems that embrace all spheres of the national economy, and chief among them is the conversion to an intensive path of developing the economy. This is the pivot of the party's economic strategy, the highest goal of which is a steady rise in the material and cultural level of the lives of the Soviet people.

In solving the main economic and social task set by the party, an important role has been assigned to capital construction. During the 11th Five-Year Plan all its participants are required to build up the country's production potential systematically on a modern engineering base and to provide for the required volume of erection of housing and facilities for municipal, personal-amenity, social and cultural purposes. The current five-year plan, said Comrade L. I. Brezhnev, will be a serious test for the builders. In order to cope with it successfully, it will be necessary to work persistently for a radical improvement of the whole construction assembly line and to increase its effectiveness. The party has pointed out the main directions that lead to improvement of the industry's work and pays constant attention to its development. The recently issued decree of the CPSU Central Committee and USSR Council of Ministers, "On Measures for Further Improvement of Design and Budget-Estimating Matters," has become a new manifestation of this.

The designers, and we have more than 800,000 of them, are at the sources of construction projects. They are the binding link between science and production. Great confidence has been placed in them--to determine the appearance and content of future facilities, their cost and capital investment effectiveness. Therefore, the national economy's advance on the path of technical, economic and social progress depends greatly upon them.

We have had strong, highly qualified cadres take shape in the design institutes. They are carrying out their responsibilities with honor--in the large number of enterprises, buildings and structures which meet modern requirements that have been erected according to the designs they have developed. During the 10th Five-Year Plan alone more than 1,200 large enterprises were put into operation, many transport and agricultural facilities were built, and housing totaling 530 million square meters in area and a large number of general-education schools, children's preschool institutions, hospitals, polyclinics, cinemas, sports structures, and household services enterprises were turned over for operation. The technical and economic indicators of the enterprises and facilities that were introduced have improved, unitary capacity of the industrial equipment has risen, and the level of industrialization of construction operations has been raised. The most distinguished workers of the design institutes have been recommended for Lenin and State Prizes of the USSR and for USSR Council of Ministers' bonuses.

However, on the whole, design still does not completely answer the demands of the developing national economy. The results of scientific research and advanced experience are not always considered in developments, and measures for economical expenditure of materials, fuel and energy resources and for supporting labor productivity growth are not reviewed sufficiently. Much time is spent on the preparation and coordination of technical papers. The volume thereof in some cases is unjustifiably increased. Because of the lengthy design and construction periods, the solutions adopted frequently become obsolete and the budget-estimated cost of the facilities rises. The CPSU Central Committee and USSR Council of Ministers decree requires the central committees of the communist parties of the Union republics, kray, oblast and city party committees, USSR ministries and agencies, Union-republic and autonomous-republic councils of ministers, and the ispolkoms of local soviets of people's deputies to take steps to improve the work of design and surveying organizations, to insure the preparation of technical documents in accordance with the requirements of scientific and technical progress and the conditions for converting the country's economy to the intensive path of development.

The newest achievements of science and technology and the best domestic and foreign experience must be used in designs, and it must be insured that the enterprises that are built or rebuilt are, when introduced into operation, technically advanced and provide for the output of products of high quality according to scientifically substantiated standards for expenditures of labor, raw materials, other materials, and fuel and power resources.

In the planning and design of facilities, high effectiveness of capital investment should be provided, primarily by increasing capacity by the reconstruction and reequipping of existing enterprises, the introduction of installations and units of high unitary capacity, substantial expansion of the practice of siting equipment on open ground, the use of industrialized methods of construction, and an increase in the extent of factory preparation of the structure and articles that are produced. Designs must call for a high level of urban-development and architectural solutions, rational use of land, preservation of the environment, and an increase in seismic stability and in the protection of facilities against explosions and fire. All these demands should be established in concrete form by the client organizations in tasks for the design of enterprises, buildings and structures.

USSR Gosstroy has been charged with solving organizational, technical and standard practices questions in the area of standard design, which is of great importance in providing construction projects on time with high-quality design and

budget-estimating documentation and in industrializing construction. This year the procedure for developing, coordinating, getting expert review and approval, and issuing, distributing and using such documentation will be refined. It is intended to set up for each branch of industry a list of progressive standards and repeatedly used economical individual designs that are recommended for use and to establish maximum amounts of expenditures differentially by economic region for adapting standard solutions to local conditions.

The All-Union construction catalog for standard prefabricated reinforced-concrete, metal and asbestos-cement structure and articles for all types of construction will be reviewed. On that basis, regional catalogs for standard structure and articles are to be developed with a view to making a maximum reduction in the number of standard sizes. It has been decided to arrange for the regular issuance of illustrated catalogs of contract designs that use standard structure, articles and components in order that the compilation of the constructional part of the design will be reduced basically to the development of plan and elevation views of buildings, structures and installing schemes. The system for setting technical norms and for standardization in the area of design is in need of revision, and it is necessary to reduce the number of types of standards documentation, to eliminate duplication and unnecessary inclusion of detail, and to speed up the reflection of the results of scientific research and experiments in norms and GOST's [State All-Union Standards].

The periods for development and the volume of design and budget-estimating documentation have been cut by one-half to two-thirds. Documentation for many enterprises, buildings and structures that are to be built in accordance with standard or repeatedly used designs, and also for facilities that are not technically complex, should be prepared in one stage in the form of a contract design, with a consolidated budget estimated cost calculation.

The design of large and complicated construction projects will be accomplished in two stages--a design with consolidated budget-estimated cost calculation and working documentation with budget estimates. The basis for the planning of design and surveying work and for the design of enterprises will be schemes for the development and siting of branches of the national economy, and also schemes for the development and siting of productive forces by economic region and by Union republic.

The approved budget estimated cost is a ceiling for the whole period of the construction of enterprises, buildings and structures. It should be determined basically by a consolidated budget-estimating cost calculation: with one-stage development--according to budget estimates and standard or repeatedly used designs which are adapted to local conditions; and with two-stage--according to consolidated budget-estimating standards, price lists and cost indicators for similar type facilities. For settlements for facilities that have been built, their cost should be determined by the budget estimates that were made up for the contract design.

Under the new statute, design and budget-estimating documentation developed in accordance with existing standards, rules, instructions and GOST's is not subject to coordination with organs of state supervision. This raises substantially the responsibility of the client for the design and of the design organization supervisors and the design chief engineer and chief architect for quality, adherence to the deadline, and the completeness of the documentation turned over to the contracting organization. The demand on the client, prime contractor, equipment

suppliers, and the design institute for accomplishment of the construction in accordance with the design and the budget estimate and for the assimilation of the prescribed capacity by the established deadline will increase.

Measures have been planned for reducing labor intensiveness and periods for design and for raising the effectiveness and quality of the designers' work. To be approved in the near future is an integrated program for the automation of design work, the realization of which will begin during the 11th Five-Year Plan. The Central Institute for Questions of Methodology, Organization, Economics and Automation of Design and Engineering Surveys is being created. It is planned to organize the publication of a journal, PROYEKTIROVANIYE I INZHENERNIYE IZYSKANIYA [Design and Engineering Surveys].

The CPSU Central Committee and USSR Council of Ministers decree also defined a number of other measures that were aimed at improving design and budget-estimating matters. In particular, with a view to intensifying the economic self-sufficiency of design and surveying organizations and to regularizing their production activity, it has been planned to complete this year their conversion to the new system of planning and economic incentives. Tasks for improving the production of equipment, tools, paraphernalia, and office equipment, as well as special furniture for the equipping of design and surveying organizations, are called for.

USSR Gosstroy, jointly with ministries and agencies, are working to prepare for the conversion on 1 January 1984 to new budget-estimating norms and prices, which should reflect the contemporary level of equipment, technology and organization of production and provide for the reimbursement of socially necessary expenditures in construction.

The terms under which reconstruction and construction will be conducted during the 1980's requires further acceleration of scientific and technical progress. Primarily, it is necessary to raise considerably the effectiveness of research and development, to reduce the time taken to create and assimilate new equipment and to reinforce the connection of science with design and production. Great attention is now being paid to organizing fulfillment of the special integrated programs that were worked out by USSR Gosstroy, jointly with ministries and agencies, for developing science and technology in the area of constructional structure, materials, machines and mechanisms, to the organization and technology of production, to 10 branch-of-industry scientific and technical programs that call for the wide application of new methods for urban development and the forming of industrial clusters and effective technical solutions in erecting nuclear and other electric-power stations, railroad lines, highways and seaports, and to the creation of automated control systems.

We are expecting an appreciable return from this work. According to preliminary estimates, realization of the indicated programs will enable the consumption of rolled ferrous metals and of cement in 1985 to be reduced from the 1980 figures by, respectively, 1 million and 1.8 million tons, and labor expenditures in construction to be reduced considerably.

Designs should use more widely economical types of metal structure, different articles made of high-strength and lightweight concretes, H-beams and T-beams, and other effective materials. The volume of introduction of glued-wood and asbestos-cement prefabricated members should increase. As before, major attention will be devoted to developing and improving housing construction. Work must continue

on improvement of standard designs for housing, taking into account regional, natural and climatic conditions, and considerations of ethnic domestic peculiarities, and expansion of the mix of specialized buildings, including apartment-type dormitories for various categories of the population, as well as facilities for individual, state and cooperative housing construction. The development of additional architectural solution variants for apartment houses and social buildings must be accelerated; this will help to improve the artistic expressiveness and diversity of the urban buildup. This is an important task for the State Committee on Civic Construction and Architecture under USSR Gosstroy and the Union-republic gosstroys.

The party and government decree about further improving design and budget estimating matters opens up new and broad opportunities for creativity and a search everywhere for optimal solutions and for a rise in the quality and acceleration of the issuance of documentation. Realization of the steps contemplated undoubtedly will help to improve the construction and rebuilding of facilities and to raise capital investment effectiveness.

It is important that the development of measures for realizing the party and government decree and for converting to the new terms for working in the institutes be done strictly by the established deadlines and be a good school for education in the communist attitude toward work and for imparting a feeling of high responsibility for the assigned mission. Party, soviet and social organizations and the supervisors of designs institutes are called upon to create the necessary conditions for raising the effectiveness and quality of the work of designers and surveyors, for the fruitful creative activity of the collectives, and for developing socialist competition under the slogan, "The builders need modern economical designs during the 11th Five-Year Plan."

11409

CS0: 1821/096

CONSTRUCTION

CITIZENS' COMPLAINTS ABOUT HOUSING ANALYZED

Moscow IZVESTIYA in Russian 4 Jun 81 p 1

[Article by IZVESTIYA's Letters Section: "An Apartment in New Housing," and response by Voronezhskaya Oblast Ispolkom to previous correspondence on housing]

[Text] The Pulse of Life, from IZVESTIYA's Mail.

Workers' letters....Human documents, as V. I. Lenin called them. A channel of communication with the masses, as L. I. Brezhnev said of them at the 26th party congress. An unending source of topics, recommendations, advice and thoughts, sharp signals and joyful discoveries. A powerful stream of information about everything, about how people live, what makes them rejoice and what concerns and disturbs them. The information is precise and diverse, enabling the pulse of the Country of the Soviets, the pulse of life, to be felt continuously. And this is what the new standing column, which IZVESTIYA opens up today, will be named.

In no other country of the world has the state built as much housing for the people as ours has. "Visualize this: every year 10 million Soviet people become the occupants of new apartments. The population of a whole state. And that is not small. More than Belgium or, let's say, Austria, or even Portugal," our reader and new apartment dweller Comrade N. Pavlov writes to us from Sverdlovsk, "and you reflect that you are one of these and your spirit becomes even more joyful. Shared joy, they say, is double joy. And if it is shared with millions!"

A statistical analysis of the editorial board's mail incessantly puts the topic of housing in one of the top spots. Of the thousands of letters that our paper receives annually, in recent years an average of 150 were about housing. It has truly been said: it so happens that deficiencies are the sequel of virtues. The more housing we build, the more exactly we assess any error in the organization of this vitally important work. And this is especially noticeable now. For during the 11th Five-Year Plan an ever greater portion of apartment houses should be erected in accordance with new designs, with improved layout and with higher quality of finishing and of improvements.

Another thing is remarkable: the nature itself of the letters about deficiencies in the construction and assignment of housing has changed quite a bit recently. What does a topical analysis of the editorial mail indicate? Time was when the question of housing in readers' letters went something like this: "Put a roof over

our heads and we will do the finishing work with our own hands." "It is somewhat cramped, and it is not so comfortable in the new apartment," they were writing 10 years ago. "It is the wrong area, the wrong floor, nothing to see out the window"--these were typical themes of housing mail during the last five-year period. Today the major portion of these letters is not a request for help in obtaining housing space but a demand for high quality in the construction of new apartment houses. Yes, the new residents do not ask, they demand. And this is a right that is guaranteed by the USSR Constitution and preserved in Soviet law. The right to housing that has the amenities, is comfortable and cosy.

There are many reports in the editor's mail about the builders' successes. It is gratifying to read lines, for example, such as these: "The panel joints of our new apartment house were made literally with such artistic irreproachability, and the premises were so carefully finished inside," write the new residents of the Sheshkino Microrayon of Vilnius. "It was evident right away that those who did the work were skillful and conscientious people."

Residents of the city of Tomsk, who, after moving into a 108-unit apartment house on Ulitsa Karl Il'men, were pleased by the inventiveness and taste of both the architects and the builders--the ones who carried out the designers' schemes. Residents of the 57th Microrayon of Vladivostok and the new residents of the housing tract on Topol'naya Ulitsa of L'vov city assess highly the quality of construction of the new apartment houses. Letters received by the editors from Kiev, Voroshilovgrad, Tashkent, Novosibirsk and certain other cities contain good opinions about the new apartments.

But still, unfortunately, the joy of the new residents often is spoiled by defects and low quality of the builders' work. Letters are also still coming to the editors like this one, for example: "Our new apartment house at No 33, Mezhdunarodnaya Ulitsa, is very pretty, but inside it is a mass of defects," writes the Tver--dokhle family from Cherkessk city. "The windows and doors are poorly trimmed. The walls were whitewashed unevenly, and there are cracks all around."

Can it be that the new residents of Cherkessk were just unlucky? Alas, residents also observed many defects in the apartment house at No 158 on Ulitsa Dzerzhinskiy in Novorossiysk city: "Cracks were left at the joints of the box modules and water leaks into the apartment during bad weather, plaster falls, and the heating system is poorly arranged," veteran of the Great Patriotic War S. Pedchenko reports to us with bitterness. And in Pskov, the Ustinovs and Isachenkovs wrote to us about a new apartment house (at No 2, Sirenevyy Boulevard), "after the first rain it became more like a sieve than an apartment building." In the apartment house at No 5, Ulitsa Argha in Sukhumi, "gas was not brought into the apartment," the residents complain, "the elevator does not work, the panel joints leak water, and water does not come to the bathrooms...."

Readers A. Sidorov from Kazan' and K. Padalka from Valki, Khar'kovskaya Oblast, L. Gotlib from Omsk, G. Semenov from Saratov, and P. Borisov from Kuybyshev also reported to us various defects and outright bad workmanship in housing construction.

A typical detail. In reporting some defect, the readers try to find the cause, in order to make it easier to eliminate repetition of such errors in the future. To summarize the conclusions that were drawn in the letters, they reduce down to three main causes.

The first is the unconscientious attitude of some builders towards their work.

The second is a lack of adherence to principles and sometimes simply a spinelessness on the part of the acceptance commissions, which, as the reader will recognize objectively, are pressed in from all sides. "On the one hand are the builders ('Let's settle' they say, 'without the customary work. Accept it and we'll finish it off'), and, on the other, is the enterprise or local soviet, the future manager of the apartment house, which needs to move people in as quickly as possible. And then we ourselves, the residents, are the first and foremost ones. It must be confessed that many of us plead at the time of turnover about the 'some-how,' if only we can move in as quickly as possible," S. Potapenko writes us frankly from Vinnitsa.

The third is a lack of commitment, indifference, and sometimes even direct bureaucratism and disregard of official duty on the part of those on whom the elimination of small defects depends, before they can grow into major inconvenience. And this raises still another question: why does a specific new resident write his complaint to Moscow, to an editor? Because the question has not been solved locally.

It is precisely because locally they did not get around to eliminating the construction defects in time that the families of Sirotinykh from Banaul, of Ya. Priyede from Riga, and of teacher V. Yankova from Staryy Oskol were compelled to appeal to IZVESTIYA.

The readers know what kind of measures should be taken, and by whom, so that the disposition of a Soviet person who has acquired new housing will not be spoiled.

Almost all the letters refer to the papers of the 26th CPSU Congress. And in answer to the question posed by them: what is to be done so that the quality of housing construction will meet the modern demands of the workers, the words of Comrade L. I. Brezhnev, from the speech to the October 1980 CPSU Central Committee Plenum, are cited:

"Housing construction," said Comrade L. I. Brezhnev, "should be the center of attention of the soviets of people's deputies, and be under the strict monitorship of the party's oblast and city committees....This work must be viewed as a direct mission assigned by the party's Central Committee...."

Much is being done in the country to carry out this instruction and to provide all the Soviet people with well-appointed housing. But, as our mail testifies, not everywhere and not always is it good enough. The question arises: should not USSR Gosstroy intensify economic penalties against those who, when turning construction facilities over for operation, swear with all their might that they will eliminate defects as quickly as possible but as soon as the acceptance report has been assigned, then and there forget completely about their oaths and promises. In coping with such a narrowly pragmatic approach to their direct responsibilities, it is necessary, evidently, to use ruble punishment more widely.

The Ispolkom of the Voronezhskaya Oblast Soviet of People's Deputies Answers the Editorial Board.

The efficacy of our articles.

As the chairman of the Voronezhskaya Oblast Ispolkom A. Voropayev reported to the editorial board, the ispolkom has discussed the article, "Bureaucratic Ornament," which was published in IZVESTIYA (No 121, 1981). The newspaper's criticism was recognized as correct. A reprimand was announced against Chairman of the Zheleznodorozhnyy Rayon Ispolkom N. Zhdanov for serious deficiencies in work with letters and in organizing the reception of citizens, and for cases of an inattentive and superficial attitude toward workers' requests. In reply it is noted that P. Yerin, engineer for the reporting of housing space, deserves to be fired for a callous attitude toward Ye. Popova, but, in considering that he candidly repented his behavior, basically evaluated the extent of his fault, and apologized to Ye. Popova, it was decided to concur with the penalty (reprimand) applied against him by the Ispolkom of the Zheleznodorozhnyy Soviet of People's Deputies.

The Voronezh City Ispolkom has been charged with verifying the status of the apartment of Ye. Popova, to extend to her the necessary help in acquiring materials for repair of the building, to solve the question posed in accordance with the statute about the procedure for reporting citizens who are in need of housing and about the distribution of housing space. Oblast ispolkom sections and administrations and city and rayon ispolkoms are charged with discussing the article, "Bureaucratic Ornament," and to take measures that will preclude cases of an inattentive attitude toward examining the appeals of workers.

11409

CSO: 1821/096

CONSTRUCTION

MACHINEBUILDERS' NEGLECT OF SPARE PARTS PRODUCTION TERMED COSTLY

Moscow TRUD in Russian 5 Jun 81 p 2

[Article by Yu. Borisov, chairman of the Equipment Repair and Modernization Section of the Central Administration of the Scientific and Technical Society of Machine-building Industry: "The Burden of Losses That the Country's Economy Bears Because of a Shortage of Spare Parts"]

[Text] The inventory of machinery, machine tools and mechanisms is growing and becoming more complicated. This gratifying process has, however, its reverse side. The more that production work is taken over by modern machines and mechanisms and the greater the precision and intricacy of the equipment, the greater the requirement for expenditures on its technical servicing and repair.

Right now the repair of just two types of equipment--metalworking and woodworking--absorbs more than 3 billion rubles annually. According to the specialists' forecasts, these expenditures will double in 15 years at the current rate of growth.

And auxiliary workers are increasingly being required. Today, more than 1.2 million people in the country are engaged in the repair and technical servicing of these two types of equipment.

A very effective way to reduce all these types of expenditures for repair is known. Equipment that is more reliable and more durable must be produced: less time will be spent on technical servicing, and the need to eliminate breakdowns will occur less often.

And, of course, repair itself must be improved. Otherwise, as estimated by specialists of the GDR (where similar problems arise), in a few decades the requirement for workers for technical servicing of equipment and machinery will exceed severalfold the manpower of all industrial personnel.

One of the serious concerns of the repairmen is that of spare parts. Today, any enterprise, even one of small capacity, is forced to make its own parts, to replace those that have become unserviceable. This is not so simple a matter: articles that are highly complex in design, construction and technological intricacy are encountered in the components of modern machinery. And the sole acceptable (you will not call it judicious) way is to equip repair shops with more complete sets of machine tools to the extent possible. Is it to be wondered that almost a third of the country's available metal-cutting machine tools are concentrated at enterprise repair centers? It's a whole branch of industry!

The establishment of such a "full-scale business" does not avoid the amateurishness of small-scale activity. It has been estimated that parts produced by this method use three to four times as much labor as parts made at specialized enterprises in large-series production.

During spare-parts fabrication, the repairmen use merchant-bar metal instead of specially forged blanks--the high road to the overconsumption of materials! Finally, the quality of the articles is far from ideal. And is it possible to make a part durable if the required grade of steel is not used, if heat treatment is lacking, and if even the technology often is not known? Such repair hastens onset of the next repair.

It is, of course, desirable to obtain spare parts from the plant that manufactured the equipment. Alas, the manufacturers brush this aside. And extremely energetically. For example, the machine-toolmaking industry satisfies spare parts requirements by only 10-15 percent. The share of spare parts in total production volume of this branch of industry is no more than 3-5 percent. At the same time, in other industrially developed countries, such as the FRG and USA, it reaches 20 percent and more.

Improvement of the organization of repair, given such miserliness of the suppliers, is unthinkable. Nor is there any economic motivation at present for the manufacturers to increase the production of spare parts.

Simple common sense suggests: given all the existing problems, to expand the output of parts at ready-made production facilities with "road-tested" flow-line technology is incomparably more desirable than to continue the fabrication of "precious" parts in a piece-by-piece procedure at each consuming plant.

The production of spare parts by the forces of the enterprises that make the machines is a part of the more general problem of "company" repair in machinebuilding. Much is being written in the press today about its advantages, and we have had some achievements on this road.

An example is the original-plant system for the repair of motor vehicles, which is closely connected with the production thereof. Granted, it still has not been arranged completely. But many of the underlying principles are worthy of attention. The development of a network of repair enterprises, the specialization thereof, and the combining of assembly and part-by-part methods of repair, the renovation of certain worn parts, and many other things, but, mainly, a high level of industrialization of this specific production--all these points are awaiting analysis with a view to introducing them more widely.

Definite experience has also been built up in other branches of industry. In the Ministry of Machine Tool and Tool Building Industry, as well as in the Ministry of Electrical Equipment Industry, there are specialized repair plants within the All-Union industrial associations Soyuzstankoremont [All-Union Association for the Repair of Machine Tools] and Soyuzelektroremont [All-Union Association for the Repair of Electrical Equipment]. They overhaul equipment of the more widely distributed models made by these branches. But there are extremely few repair plants. According to the master plan worked out by the Experimental Scientific-Research Institute for Metal-Cutting Tools, Soyuzstankoremont should have 50 such enterprises. At

present there are 11, in all. At the current rate of growth of capacity, decades will be required to bring the number up to a level that will satisfy the national economy's requirements.

Minkhimmash [Ministry of Chemical and Petroleum Machine Building] has no such enterprises at all.

There is still another aspect to this question. While a plant is producing equipment of one model or another, a large number of improvements are made in the design, step by step. The manufacturing plants should systematically supply customers with technical documentation that will enable such changes to be accomplished during repair and provide the needed components and parts.

Why has such a situation been created, whereby a complicated and costly thing passes over to the operators, and, in maintaining its "active longevity," they are doomed to worry about it to the extent of their capabilities and potential? For the manufacturers of the machine, possessing the key to long and stable operation of it, are concerned only about getting it off their hands....Why is it that attempts to lay the necessary bridges between the producers and the users of the machinery, which are undertaken for the sake of the main purpose--efficient operation of the machinery itself--are not successful?

The indifference of the machinebuilders is explained simply: there is no motivation. Agency plans suggest that they solve entirely different tasks. Therefore, the machinebuilding ministries' plans must incorporate the basic amounts of overhaul of fixed capital, as well as the creation of capacity for the centralized repair of equipment.

Only USSR Gosplan can undertake such a major chapter in planning work. Simultaneously, economic stimuli that would persuade machinebuilders themselves to investigate and make repair plans should be examined.

And, finally, there is one more circumstance. The new machine tools and machines with complicated hydraulic and electronic systems are very strict examiners of repair personnel: they test the depth and breadth of their knowledge. This relates to wageworkers and to engineers and technicians of the repair services. Training programs do not meet these requirements--neither those that train repair mechanics at vocational and technical schools, nor those that are used to train future specialists in machinebuilders' tekhnikums. The machinebuilders vtuz's [higher engineering educational institution] do not produce such specialists at all. They have for this purpose neither the appropriate departments nor faculties.

And so we shall sum up what has been said. The unimproved system of organizing repair is costing the state dearly. This is one of the shining examples of uneconomical economics, where ministries and their enterprises, in pursuit of reaching current targets (to produce more new machine tools or machines, to flash a "good" figure in the report), forget about state interests. An increase in the output of new machinery, by reducing spare parts output inflicts not only economic harm on the country but also social harm. They have produced hundreds of new machines, but thousands have stopped because there is no way to replace a trivial part. This means that people are working manually. Labor productivity drops, product quality falls, and morale worsens.

In essence, an increase in the output of spare parts (and this includes, of course, not just machine toolmaking) across the board is equivalent to the country's obtaining additional machinery and equipment which has been standing idle for a long time. Thus, perhaps, it is worthwhile to reduce somewhat the output of units above plan and, instead, to produce more spare parts? It is obviously not a complicated matter to make comprehensive computations and determine the proportions. But it is precisely this which will be an economical approach to the matter, or, in other words, economical economics. The national economy will prove to be the winner, and that means all of us.

11409

CS0: 1821/096

CONSTRUCTION

STATUS OF UZBEK CONSTRUCTION WORK REVIEWED

Tashkent PRAVDA VOSTOKA in Russian 10 Jun 81 p 2

[Article: "Construction Should Be Effective and of Quality"]

[Text] Collectives of the republic's construction and installing organizations are working persistently to implement the 26th CPSU Congress's historic decisions.

During the first 5 months of this year 8 percent more capital investment was assimilated and 8 percent more construction and installing work was performed than during the corresponding period of last year, 657,000 square meters of housing, schools for 6,032 children, preschool institutions for 4,400 children, hospital space for 330 beds, and polyclinics rated for 750 outpatients were put into operation, and more than 14,000 hectares of new irrigated land were developed. The rate of growth of work on animal husbandry and poultry-raising facilities rose.

The work of the republic's main contracting ministries and agencies for January-May of this year were marked by the following indicators (in percents):

Ministries and agencies	Realization of finished construction commodity output	Realization of rated amount of construction and installing work		
		May	January to May	Jan-May 81 vs Jan-May 80
Ministry of Construction.....	63	102	100.1	104
Ministry of Rural Construction..	48	98	101	109
Ministry of Installation and Special Construction Work.....	173	111	107	104
Main Administration for Construction in Tashkent.....	78	100	100	101
Ministry of Land Reclamation and Water Resources.....	64	108	110	113
State Committee for Construction of Water-Management Facilities	74	110	108	107
Ministry of Construction and Utilization of Roads.....	85	115	111	112
Main Administration for Irrigation and Construction of State Farms in Central Asia (for the UzSSR area).....	75	104	107	107
Trust for Kolkhoz Construction in Uzbek SSR.....	60	106	106	105

All the republic's main contracting ministries and agencies carried out the plan for the rated amount of construction and installing work during the first 5 months. However, as is evident from the cited indicators, certain ministries did not carry out the plan for realizing finished construction commodity output, and the Ministry of Rural Construction did not fulfill in May the plan for the rated amount of construction and installing work. The lag in the construction of housing, schools and children's preschool institutions causes serious worry and anxiety.

For the ministries of many branches of the economy, the pace of introduction of fixed capital into use has been reduced. In some oblasts, cities and rayons, the construction of facilities for light industry, the food industry, and the cotton-ginning, local, and meat-and-milk industries, which are designed to produce consumer goods, was lagging, and a lag had been permitted in the construction of branches of the Andizhan Cotton Combine in Markhamat, Pakhtaabad and Chualm, the bakery and cooling plant in Dzhizak, and certain other facilities.

In June a major program is to be carried out for the introduction into use of fixed capital, production capacity, housing and facilities for cultural and personal-amenity purposes. For this reason it is necessary to concentrate supply, equipment and human resources to the maximum at facilities due for startup, to organize correctly the work of builders and installers, and to do everything possible to promote fulfillment of the high socialist commitments that they have undertaken.

Party oblast, city and rayon committees and their construction staffs should examine at their meetings every 10 days the results of the work on facilities due for startup, and, where necessary, take quick measures daily to eliminate lags behind the established goals and schedules, and to raise the responsibility of communists and all construction participants to provide for the unconditional introduction into operation of all startup facilities for the first half of the year.

11409

CSO: 1821/096

CONSTRUCTION

CONSTRUCTION PROGRESS AT BELORUSSIAN KOLKHOZES REVIEWED

Minsk SEL'SKAYA GAZETA in Russian 14 Jun 81 p 3

[Article by BELTA: "Build More Rapidly, Better, and More Economically"]

[Text] Baranovichi, 13 (BELTA [Belorussian Telegraph Agency]). The 4th Congress of the Belorussian Republic Association for Interkolkhoz Construction Organizations, which summed up the results of the past 4 years, convened here yesterday, and plans for the future were set. The reporter--chairman of the administration of Belmezkholkhozstroy [Belorussian Republic Association for Interkolkhoz Construction Organizations] A. T. Kichkaylo--and those who spoke in discussions analyzed the state of affairs in their production activity and spoke about the tasks that ensue from the decisions of the 26th CPSU Congress and the 29th KPB [Communist Party of Belorussia] Congress and about practical ways to implement them.

During the 10th Five-Year Plan the interkolkhoz construction organizations performed 1.42 billion rubles' worth of construction and installing work, which is 1.4-fold that done during the Ninth Five-Year Plan. More than 7,500 facilities for production, cultural and personal-amenity purposes and for housing were built and turned over for operation, and more than 1,000 facilities were introduced above the plan. Labor productivity during the five-year plan rose 25.4 percent, enabling almost the entire increase in operations to be accomplished without a manpower increase.

The growth in construction and installing work volume during the last five-year plan by introducing industrialized methods and new structure and materials was substantial. Their economic effectiveness amounted to 28.8 million rubles during the 5 years.

Using the experience of their Estonian colleagues, Belorussia's interkolkhoz builders fabricated equipment and developed a technology for the preparation and application of rapidly hardening foam plastic as a thermal insulating layer. In 1980, 80,000 square meters of the thermal insulating layer was applied as a covering for the surfaces of livestock buildings. Highly economical pyramidal piles were used on a large scale. The replacement of columnar footings by pile footings enabled the complete avoidance of earthmoving operations and a reduction in construction time and labor expenditure. Almost 80 percent of the buildings for agricultural purposes are being erected today on such footings. Just by introducing the piles and replacing mineral-wool thermal insulating layers with foam plastic, in 1980 the prime cost of construction was reduced by almost 500,000 rubles, labor expenditures were cut by more than 10,000 man-days, and 160 tons of metal and more

than 2,000 tons of cement were saved. The unification of standard parts and structure, which enabled the number thereof to be sharply reduced, played an important role in raising the level of industrialization of construction.

The production base of interkolkhoz organizations was greatly strengthened. More than 317 million rubles of capital were invested in its development. Large industrial enterprises, such as the Dzerzhinsk Experimental Machinery Plant, the Novolukoml' Keramzit-Gravel Plant, the Lida, Lyuban' and Shklov building-materials combines, the Farinovskiy, Kopyl' and Ivatsevichi reinforced-concrete products plants, the facing tiles plant at Bereza, and other enterprises also were built during the 10th Five-Year Plan. Along with the construction of the new plants, existing enterprises were rebuilt and reequipped with machinery. Almost all of them are a part of oblast associations. The centralization of construction production-type work and of its management within each oblast has brought, as experience indicates, a more tangible benefit.

During the reporting period, the report noted, management by lower-level subunits of builders was improved, and progressive forms and methods for organizing production and labor found wide application.

More than 520 million rubles' worth of construction and installing work were carried out by the brigade-contract method. The share of workers transferred to piecework-plus-bonus pay rates was doubled. Last year it was 70 percent.

A most important reserve for raising production effectiveness is socialist competition. Both individual workers, teams, brigades and sections and the collectives of organizations, enterprises and associations are taking part in it. The cost accountable brigade of communist labor from the Kobrin MPMK which Belorussian Distinguished Builder M. A. Veremeyuk supervises, the brigade of V. K. Churilo from the Mozyr' MPMK, the specialized installers' brigade of the Grodno SSK [rural construction combine] under K. A. Milosh, the integrated brigade of A. F. Osipov from the Shuchinskiy MPMK, the collective of the section of the Polotsk MPMK under superintendent V. M. Titov, and other brigades achieved good work results. The painstaking work of many builders was evaluated highly: they were awarded orders and medals.

At the same time, the reporter and other speakers directed attention to the incomplete use by rural builders of the existing potential and reserves. Proof of this is the fact that 46 construction organizations and the Vitebsk, Grodno and Mogilev associations as a whole did not cope with the five-year plan for construction and installing work, and the last two did much worse in 1980 than in 1917 [as published]. Unsatisfactory operation of these organizations did not allow fulfillment of the five-year plan for labor productivity growth, even for the republic association as a whole.

The congress disclosed the causes of the deficiencies permitted in the work and pointed out ways to eliminate them. In the resolution that was adopted, the attention of interkolkhoz construction organization collectives was concentrated on the unconditional fulfillment of plans and socialist commitments for 1981 and for the 11th Five-Year Plan as a whole.

Participants of the congress focused attention on problems of introducing into production the achievements of scientific and technical progress and the experience of

advanced construction organizations, increasing labor productivity and measures for retaining personnel, and eliminating existing deficiencies in the activities of organizations and enterprises.

Speaking at the congress were Deputy Chairman of the Belorussian SSR Council of Ministers M. V. Kovalev. Secretary of the Central Committee of the Belorussian Communist Party Yu. B. Kolokolov took part in the congress's work.

A. T. Kichkaylo was again elected administration chairman at Belmezhkolkhozstroy at the first session of the new makeup of the soviet.

11409

CSO: 1821/096

CONSTRUCTION

LAPSES IN ARMENIA'S CONSTRUCTION OF CIVIC FACILITIES CRITICIZED

Yerevan KOMMUNIST in Russian 18 Jun 81 p 1

[Article by Armenpress: "Under Unremitting Monitoring"]

[Text] /The Armenian SSR Council of Ministers noted that during the first five months of 1981 plans for the construction of housing, schools, children's preschool institutions and hospitals in the republic were not met. On 1 June capacity for the construction of 169,800 square meters of housing, schools for 4,040 students and preschool institutions for 910 children had not been introduced into operation. [in boldface]/

This was caused by the extremely unsatisfactory work of the Ministry of Industrial Construction, the Ministry of Rural Construction, Glavuprmontazhspetsstroy [Main Administration for Installing and Special Construction Work] and other contracting organizations, as well as client ministries, agencies and organizations at facilities due for startup, carryover projects, and construction starts.

The sharp lag that was allowed in the construction of housing, schools, children's preschool institutions and hospitals resulted from a lack of due attention on the part of supervisors of construction ministries and agencies to the above-mentioned facilities.

One of the main causes of the low pace of housing construction was the systematically incomplete use of the existing capacity of large-panel housing-construction enterprises. The Ministry of Industrial Construction and the Ministry of Rural Construction use this capacity by only 70 and 62 percent.

Housing and civic buildings are being turned over for operation with substantial construction defects, with uncompleted work on the amenities, and with finishing-work defects. Agency services for monitoring construction quality operate unsatisfactorily.

State acceptance commissions, client ministries and agencies, and city and rayon ispolkoms of soviets of people's deputies do not always display the necessary exactingness toward construction quality. At times they allow acceptance for operation of buildings and structures with low quality of construction and installing work and with much work not completed.

The council of ministers resolution noted that the ministries of industrial construction and rural construction, the Main Administration for Installing and Special Construction Work, the ministries of housing, municipal services and agriculture, the Yerevan City Ispolkom of the Soviet of People's Deputies, the Ministry of Public Health, and other client organizations and contractors did not achieve the proper breakthrough in the construction of facilities for social purposes and are continuing to permit an unjustified lag in carrying out plans for the construction and introduction into operation of housing, schools, children's preschool institutions and public-health facilities.

With a view to insuring the unconditional fulfillment of construction plans, the Armenian SSR Council of Ministers has required the supervisors of these ministries and agencies and the Yerevan City Ispolkom of the Soviet of People's Deputies to take urgent measures to insure fulfillment of the plan for the construction and introduction into operation of housing, schools, children's preschool institutions and hospitals by the established deadlines.

The ministries of industrial construction and rural construction, the Main Administration for Installing and Special Construction Work and the Yerevan City Ispolkom of the Soviet of People's Deputies and others should jointly review the status of construction of housing, general-education schools, children's preschool institutions, hospitals and polyclinics and take active measures to eliminate deficiencies that are discovered, and to supply startup construction projects with personnel, machines, mechanisms and the necessary supply and equipment resources that will provide for fulfillment of the plan for the construction and introduction into operation of facilities for social purposes by the established deadlines, and also of housing under the additional task established for 1981. They should take steps to improve radically the construction of housing through housing-construction cooperatives and to use rationally the capital investment allocated, paying special attention to improving the quality and rhythmicity of construction and reducing the time taken to erect facilities.

It is proposed that Armenian SSR Gosstroy, jointly with the ministries of industrial construction and rural construction, work out measures to increase the effectiveness of the measures for improving the work effectiveness of housing construction enterprises, particularly in rational specialization of and cooperation in production, improvement in the use of capacity, and increase in the extent of factory readiness of structure and parts with a view to reducing labor expenditures at construction projects, and to intensify monitoring of the quality of construction and installing work at facilities and of the reinforced-concrete structure and articles that are produced by construction industry enterprises.

The Armenian SSR Council of Ministers has required the chairman of the ispolkoms of city and rayon soviets of people's deputies to increase the exactingness of state acceptance commissions in the matter of accepting facilities for housing and civic purposes for operation.

Armenian SSR Gossnab should take steps to provide for the timely and complete disbursement of funds for equipment, outfitting articles and building materials that are allocated to construction and installing organizations for 1981, with a view to eliminating interruptions in the supplying of facilities under construction with supplies and equipment.

The council of ministers has required ministries and agencies and the ispolkoms of city and rayon soviets of workers' deputies to take measures to improve the work of state acceptance commissions, particularly with regard to raising exactingness in evaluating the quality of housing, schools, children's preschool institutions, hospitals and polyclinics and to providing for the timely formulation of state reports of acceptance of facilities for operation.

11409

CSO: 1821/096

CONSTRUCTION

BRIEFS

NEW MOSCOW WATER MAIN--The installation of a new water main has been completed. It runs from Yaroslavskaya Ulitsa to Ulitsa Konstantinova. The potable-water route passes underground through apartment house blocks located in the area of Raketnyy Bul'var. Workers of Specialized Administration No 5 of Mospodzeminzhstroy [Moscow State Trust for the Construction of Underground Utilities and Service Lines] have been building it. The potable-water supply of nearby rayons will be greatly improved with the introduction of the underground river into operation. [Text]
[Moscow MOSKOVSKAYA PRAVDA in Russian 25 Jun 81 p 3] 11409

CSO: 1821/096

CONSTRUCTION MACHINERY

BRIEFS

NEW PIPELAYER--It is clearly evident how swiftly demand is increasing among builders of oil and gas pipelines through the example of pipelayers. It seemed as if the problem of laying mainline pipelines with a diameter of 1.220 and 1.420 mm arose only very recently. The Sterlitamak construction machinery plant developed the serial production of the "TG-502" pipelayers for them which can hold a run of pipes with a weight of up to 50 tons on its side boom. But for the long range the topic is about building pipelines with a diameter of 1.620 mm. And structural engineers at the VNII [All-Union Scientific Research Institute] of Construction, Road and Municipal Machine Building developed an even more powerful machine--the "TG-802" pipelayer with a load lifting capacity of 80 tons. The most interesting thing is that the same "T-330" tractor served as the base for this experimental machine. By what means was its power able to be used more efficiently? All of the working equipment on the "TG-802" is hydraulic. A hydraulic cylinder is used instead of cables for lifting and lowering the boom. The cargo hoist is made in the form of a compact assembly together with the reduction gear and hydraulic motor. The structural form of the system of counterweights was improved which increased the stability of the machine. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 Jun 81 p 2] 9495

MINILOADER--Tester Yuzef Kubish raised his machine on its rear. And for an instant it froze on its back wheels as if pondering where to dash to next. And then a real rodeo began: the machine turned in place, surmounted a tiny abutment of ground with a jerk and froze a centimeter from the side of its neighbors--this is how Czechoslovakian specialists demonstrated the remarkable maneuverability of the new "UNTs-060" mini-loader. This compact machine, with the volume of its bucket 0.45 cubic meters, is capable of operating in a maze of shops under reconstruction, at the most crowded construction sites and in warehouses and holds of ships. It is possible to fasten 13 interchangeable devices--from a bucket and bulldozer moldboard to a fork and auger--on its boom with the aid of a rapid action clamp. All of the loader's tools are put into operation by a hydraulic system. Steering is provided by an independent drive gear on each wheel in the form of two handles. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 Jun 81 p 2] 9495

MOBILE TOWER CRANE--To "be able" to complete the most diverse operations, to change its cargo and height characteristics fairly easily, to not require much time to prepare it for operation and dismantling, to be quickly shifted from base to base--such is the concept that was made the basis for self-propelled tower cranes on an automobile-type chassis. The most powerful of these machines were created by the joint efforts of Soviet and Polish specialists. Their latest development is a "KS-8471" self-propelled crane on a seven axle chassis that is capable of lifting cargo with a

weight of up to 100 tons. Its telescoping extension boom lengthens from 13.7 to 47.7 meters. From this also comes a broad sphere of service in the literal sense: the crane can transfer cargo to a height of more than 100 meters or to a distance of 38 meters from the machine. The weight of the "KS-8471" self-propelled crane is 86.6 tons. But this does not hinder it from moving from site to site on its wheeled chassis at a speed of 50 kilometers an hour. And structural engineers already have new plans for the future: they are developing similar mobile cranes of 160 and even 250 tons. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 Jun 81 p 2] 9495

EXCAVATOR FOR SLURRY WALLS--Specialists have long been worried about the fate of the Pitsund promontory: its jetty is slowly but steadily slipping into the Black Sea. There is one way out: the bank must be reinforced by a concrete wall. Only how can this be done if the ground here is loose gravel and cutting wide trenches is not possible due to a unique grove of relic trees? Under such conditions a rival for the "EO-5123" excavator, which is equipped with a grab bucket on a telescoping pressure bar, can hardly be found among modern construction technology. The closed "jaws" of this device are capable of cutting open narrow slit trenches to a depth of up to 20 meters. Their width can remain no greater than 0.6 meters. In order that the walls do not collapse the slit trench is filled during the course of the work with bentonite mortar. It penetrates into the pores of the walls and makes them almost hermetically sealed. Then steel reinforcing is placed in the mortar and, after lowering hoses to the bottom, liquid concrete starts to come out. This displaces the bentonite mortar which is pumped out and can be used repeatedly. The concrete itself, having filled the slit trench, congeals and becomes a monolithic wall. From this comes the name of the new technology--a "wall in the ground" [slurry wall]. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 Jun 81 p 2] 9495

NEW LOADER--The first lot of new "TO-25" loaders with the "Dormashina" Association's brand name has been shipped to consumers. These all purpose machines will be extensively used when building highways and for any large construction job. The load capacity of this innovation has been increased to 3 tons. The bucket, with a capacity of one and a half cubic meters, is capable of loading or unloading any cargo. The loader can handle the most diverse cargo--bound in sacks or boxes, loose or single pieces. The necessary conveniences and comforts have been provided for the driver. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 15 May 81 p 2] 9495

BUILDING MATERIALS

NEW METHOD OF PREVENTING CORROSION OUTLINED

Kiev STROITEL'STVO I ARKHITEKTURA in Russian No 6, Jun 81(signed to press 2 Jun 81)
p 33

[Article: "Binders Which Improve the Corrosion Resistance of Concrete"]

[Text] Using granulated blast furnace slags to which sodium sulfite-sulfate, a by-product of the Rubezhanskiy Chemical Combine, and sodium fluosilicate were added, a group of scientists -- V. D. Glukhovskiy, Zh. V. Skurchinskaya and V. A. Matviyenko (Makeyevskiy Construction Engineering Institute) has proposed a binder with greater resistance to corrosive sulfate. The binder's composition (weight in percent) is: granulated blast-furnace slag -- 87-94, sodium sulfite-sulfate -- 5-10, sodium fluosilicate -- 1-5. The sodium sulfite-sulfate and fluosilicate are added in powdered form. The compression strength of the binder is 300-600 kGs/cm².

Use of this binder will enable us to obtain concrete with good physical-mechanical properties using production waste, at a savings in clinker cements.

COPYRIGHT: Izdatel'stvo "Budivel'nik", "Stroitel'stvo i arkhitektura", 1981

11052

CSO: 1821/107

METALWORKING EQUIPMENT

DEVELOPMENTS IN MACHINEBUILDING, HEAVY EQUIPMENT

Computer-Designed Machine Parts

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 20 Jan 81 p 2

[Article by V. Nat, TASS correspondent (Khar'kov): "Under the Dictates of a Computer"]

[Text] A mathematical program developed by Khar'kov Polytechnical Institute scientists will help to design machine parts by means of a computer.

For this purpose, information about the geometric shapes of the future products is fed into the computer's memory. On receiving an assignment, the electronic brain chooses an optimal configuration for the parts, and then designs a tool for machining them. The path of the shaping tools and of the milling and abrasive disks is computed meticulously.

Such a coded program can also control the operating members of machine tools with numerical program control, allowing the bit to travel along even the most intricate curve. The Khar'kovites' innovation will find use with the introduction of units that operate on command of a minicomputer.

Atomash Reactor Production Starts

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 21 Feb 81 p 2

[Article by Correspondent A. Zornin (Volgodonsk): "Atomash's First Reactor"]

[Text] A joyous holiday came to the buildings and to the Atomash construction site. The chief item of the pre-congress socialist commitments had been fulfilled successfully half a year ahead of the standard period--the first vessel of a nuclear reactor had been fabricated. Atomash thereby gave a start to the serial output of equipment for AES's.

This success became possible thanks to the competition of the plant's builders and operators, which was promoted under the motto: "We will build ahead of time, and we will master production ahead of time!" Thus, a decision was made at Atomash in April 1978 to start production of the first vessels of a reactor and a steam generator without waiting for the enterprise's startup complex to be turned over for operation. The start of production of nuclear power equipment is rightly

considered to be 15 August 1978. On that day, five of the first specially built boring and turning lathes went into operation and began to machine the shells of the vessels of a reactor and a steam generator--4 months ahead of scheduled production capacity.

One of the ways to shorten the reactor-vessel fabrication cycle that is being used widely at Atommash is to combine industrial operations. Labor consumption for a VVER-1000 type reactor vessel is more than 121,000 norm-hours. Advanced brigade leaders V. Suslov, Yu. Tikhonov, A. Savranskiy, V. Alekseyev, L. Zimin and others, during a discussion of the design of the critical-path schedule, made plans to reduce the time. For 2 years the process of producing the reactor went on, without interruption by even one shift; work went on around the clock, even on off-days and holidays.

And now the first vessel of a Don atomic reactor has been fabricated and sent for hydraulic tests. A festive workers' meeting dedicated to this remarkable victory was held at Atommash. Representatives of the city community and the construction workers sincerely congratulated the creators of the first nuclear reactor. The meeting's participants adopted an appeal to all construction workers and operating workers of Atommash and also sent the text of a letter of greetings to the CPSU Central Committee and personally to Comrade Leonid Il'ich Brezhnev. Atommash's collective has adopted increased socialist commitments--to produce seven sets of equipment for AES's during the 11th Five-Year Plan.

On the eve of this important event a meeting was held with representatives of a delegation from the Yuzhno-Ukrainskaya AES, at which the first Don nuclear reactor will be installed, and with the management of the Rostovskaya AES. The plant's workers and their clients concluded an agreement on collaboration. Thus the "workers' relay race," which played a positive role in the construction of Atommash during the 10th Five-Year Plan, will receive new development during the 11th Five-Year Plan.

Plant Produces Second Robot

Moscow MOSKOVSKAYA PRAVDA in Russian 21 Feb 81 p 3

[Article: "A Specially Built Complex"]

[Text] 16 February, Monday. A specially built automated section that uses robots has been assembled at the Stankokonstruktsiya plant. The realization of the strenuous program that was adopted by the collective in honor of the 26th CPSU Congress has been completed.

Any product produced by this enterprise's specialists mandatorily gets the title of "specially built." In April of last year a similar complex was made and sent to the Dinamo plant. And today the second one, which is more powerful and improved is ready.

The robot moves along a monorail, and a metal arm finds the necessary blank in a cassette. A tactile feeler has been installed at the end of the arm for this purpose. This device serves as a sense of touch for the robot. On sensing the required part, the robot takes it and installs it on the machine tool. When the

blank has been partially machined, the robot transfers it to a second machine tool, and then to a third one, where the finish machining is completed. The last operation, which is entrusted to a manipulator, is the placement of the finished output into an outgoing cassette. Each machine tool has its own cycle of operations. At one the part is held for a long time, at another the process proceeds more quickly. So the machine tool will not be idle under such a varied operating regime, the robot is programmed in such a way that it can serve individual machine tools on call. A so-called priority system has been installed on it. In brief, the smart mechanism is capable of solving the problem of choice: if calls are made simultaneously by two machine tools, it will deliver the part to the one with the longer machining process. Another advantage of the robot over its predecessors is that an additional cassette, which serves as a small storage, has been installed around each machine tool. If the first machine tool has already machined a part and the second one is still busy, the manipulator places the semifinished part into this cassette. And only when the machine tool is free does the mechanical operator send the blank further on the path along the operating chain.

The new automatic section for lathe machining of shafts is distinguished from the previous one by the fact that a more powerful machine tool has been installed and the robot is more sensitive. It is equipped with a developed system for sensory information. One operators tends this whole complex. Thus lathes are being released, since the machine tools are equipped with numerical program control, and the shop hands who bring the parts for the machine tools also are freed. The section's operating potential also has been expanded. Articles up to 2 meters long and weighing up to 160 kg can be machined there.

Another installation is now being manufactured at the plant. It, like its predecessors, will be sent to one of Moscow's enterprises. Thus, Stankokonstruktsiya is filling important orders for the capital's industry. And by the end of the current five-year plan, the plant's specialists will be producing an automatic section for its own production needs.

The unique complex that has been created at the enterprise is the fulfillment of the collective's strenuous preCongress commitments. They are important also because a relay race of technical progress is being started at the enterprise for many other plants. Use of the new means of automation, even of whole sections, will also enable important social tasks to be solved. The technical innovations will free workers from heavy work and impart a creative nature to their work.

- During the last five-year period more than 1,200 mechanized and automated lines were introduced at the city's enterprises, which enabled more than 130,000 persons to be freed from labor-intensive work.

Machinebuilding's Crucial Contribution

Moscow KOMMUNIST VOORUZHENNYKH SIL in Russian No 6, Mar 81 (signed to press 7 Feb 81) pp 18-24

[Article by G. Vlasenkov, candidate of economic sciences: "At the Leading Edge of Technical Progress"]

[Text] The machinebuilding complex is playing a decisive role today in the steadily advancing development of the national economy. As is known, it provides for the updating of fixed capital, the reequipping of all branches of the economy, and an

increase in the capital-to-worker ratio, based upon new and progressive equipment. "The base of bases of scientific and technical progress is the development of science," said Comrade L. I. Brezhnev in the CPSU Central Committee's Accountability Report to the 26th party congress. "But it is primarily /machinebuilding [in bold-face]/ that can open the doors widely to what is new. That which advanced scientific and engineering thought creates, the machinebuilders are called upon to assimilate without delay, to incorporate it into highly effective and reliable machinery, instruments and industrial assembly lines."

A machinebuilding industry of high capacity and many branches has been established in the USSR. It is capable of satisfying the national economy's diverse requirements for the tools of labor. The branches of machinebuilding and metalworking number more than 8,700 production-and-science and production associations and enterprises, which produce more than 28 percent of the country's industrial output. The USSR's machinebuilding holds second place in the world in total volume of production and first in the output of many types of equipment and machinery, diesel locomotives, electric locomotives, metal-cutting machine tools and other most important products.

The significance of this basic branch of the Soviet economy is determined primarily by the fact that in modern production it directly supports all the important areas of technical progress--mechanization, automation, electrification, the widespread use of chemistry, and nuclear power.

The machinebuilding complex, in being developed at a pace that outraces industry as a whole, promoted important advances in the technical level of production and higher quality of the output produced during the 10th Five-Year Plan. Distinct new types of machines, equipment and instruments numbering 17,500 were mastered. More than 7,500 distinct obsolete machines and installations were taken out of production. The share of output of the highest quality category almost doubled. Progressive branches of machinebuilding, which are important in speeding up scientific and technical progress, were developed at a rapid pace.

"The Main Directions for Economic and Social Development of the USSR During 1981-1985 and During the Period up to 1990" calls for a broad program for developing the machinebuilding complex. Its essence consists in supporting the ever-rising pace of radical reequipping, and a higher technical level for all branches of the national economy through the introduction of highly productive and economical systems of machines, equipment and instruments. We are talking here primarily about anticipatory growth in the production of progressive equipment and means of mechanization and automation. This will reduce the amount of manual labor in the national economy and will help to mechanize heavy, labor-intensive and monotonous work.

The output of systems of machines and equipment will be increased. This should provide for integrated mechanization and automation of the whole operating cycle--from the arrival of raw material to the shipping of the finished product. It is planned to expand the production and shipment of integrated production assembly lines, of units and installations with a high degree of factory manufacture and assembly, and of equipment for basically new industrial processes.

During the new five-year plan the output of electronic computer equipment, instruments and peripheral equipment will increase substantially, and this will enable

automated control systems for industrial processes to be created. Also, technically obsolete output is to be taken out of production in good time.

The task of expanding the mix and increasing the output of equipment specially for the country's eastern and northern regions has been posed. And this is completely consistent. The term "northern version" is in use. It reflects the natural conditions, the level of development, and the scale of output in regions that often are located beyond the Arctic Circle. Naturally, special equipment that can operate under the severe northern and eastern regions of the USSR is needed here.

Realization of the program for developing the machinebuilding complex will enable progressive shifts in the national economic structure to be made. As a result of technical reequipping at an outstripping pace, the branches of industry that determine scientific and technical progress in the USSR's national economy will be developed. Another purpose of the program is to make possible growth in the output volume of all branches of material production and in development of the nonproductive sphere, mainly by increasing labor productivity and without enlisting additional labor resources. This task can be solved mainly on the basis of integrated mechanization and automation.

During the 11th Five-Year Plan the output of machinebuilding and metalworking products is to be increased at least 1.4-fold, whereas industrial output as a whole is to increase by 26-28 percent. It is planned to speed up the pace of the updating of products 1.5-fold to 2-fold. At the same time, it is planned to eliminate all the still-existing gaps in the technical level and quality of certain types of machines in comparison with the world's best models.

During the new five-year plan, the production of equipment for the fuel and power complex will be expanded at an ever-increasing rate.

A block of 1.2 million kw capacity recently went into operation at the Kostromskaya GRES. Generally, this would be an ordinary fact for the Soviet people, who are nowadays witnesses to precipitate scientific and technical progress in the motherland's socialist economy. But at the same time it signified a major leap in power machinebuilding in recent years. Let us recall that power units of 240,000 kw capacity each were put in at the Bratskaya GES. And that was, at the time, an event in the life of our country.

Technical progress is especially characteristic for nuclear power engineering. Soviet machinebuilders equipped the Obninskaya AES, the world's first, with a unit of 5,000 kw capacity. Now reactors of 1 million kw are in operation at the Leningradskaya, Kurskaya, Chernobyl'skaya and Novovoronezhskaya nuclear electric-power stations.

Soviet design developers and engineers are developing new types of power units--breeder reactors of 800,000 and 1.6 million kw capacity and equipment for highly flexible power units of 500,000 kw capacity. The share of highly effective power-engineering equipment--steam turbines of 500, 800 and 1,000 mw capacity--is being increased greatly. What does this do for the national economy? Very much. The average power of turbines has risen more than 1.7-fold.

The output of equipment for nuclear reactors of 1-1.5 million kw capacity is being increased. The benefit from this is great. Indeed, the operation of a reactor of

1 million kw capacity will save about 2 million tons of standard fuel equivalent annually, and this means also that the expensive hauling thereof will be eliminated.

Machinebuilding has been called upon to give the country diverse types of equipment for the mining industry, accelerating the integrated mechanization of the miners' work under complex geological conditions, and to increase the output not only of progressive equipment that has been assimilated but also of new equipment that is more powerful and more productive. And it must be said that Soviet machinebuilders have achieved remarkable successes here. Thus, during the surface mining of coal nowadays, rotary excavators with productivities of 630, 1,250 and 5,000 cubic meters of mined material per hour are being used. The use of such giants instead of single-bucket excavators raises the miners' labor productivity 1.5-fold to 2-fold. Let's say that half of the coal strip-mined during the 11th Five-Year Plan will be obtained by rotary excavators. But this is only a start. Rotary excavators with productivities double those of today's excavators are to be created, and the production of new, highly effective open-pit dump trucks is to be mastered. As a result, a number of complicated problems associated with making better use of existing production capacity and with introducing new production capacity, including capacity at the Krasnoyarsk Heavy Excavator Plant, must be solved.

The electrical equipment industry is playing a major role in the ascent of power engineering and some other branches of the Soviet economy. The quality and reliability of its output also determine progress and production effectiveness to a great extent here. During the 11th Five-Year Plan, for example, the output of turbogenerators of 1-1.5 million kw capacity will grow substantially. The production of sets of high-voltage equipment for power grids of 1,150 kilovolts AC will be further developed. This will solve the problem of transmitting power from the eastern regions to the European portion of the USSR with reduced losses of electricity.

Automotive equipment is finding wide and diverse use in all parts of the national economy. The "Main Directions" speak about the need to speed up the production of high-capacity trucks, to equip them with loading and unloading arrangements, and to increase the output of specialized vehicles, including container carriers with load capacities of 20 and 30 tons, refrigerator trucks, tank trucks for petroleum products, and means for hauling cattle, poultry and composite liquid fertilizers. Designs are to be developed for special vehicles and truck-and-trailer combinations for agriculture and their serial production is to be organized. It is planned to double the output of vehicles with diesel engines. The advantages from this are indisputable. A saving of fuel and energy resources for the last year of the five-year plan, estimated at 500,000 tons of standard fuel equivalent, will be provided for.

The machinebuilders will increase substantially the production volume and will update the products mix of equipment for industries that produce constructional materials--ferrous and nonferrous metallurgy, and the chemical, petrochemical, building-materials and wood-processing industries.

Machinebuilding enterprises should create and master within a short time the series production of new equipment and systems of machines that will enable the wide-scale use of highly productive technology that saves energy and materials. It is important to increase the shipment of new equipment for producing materials with increased durability, new synthetic materials, and products of intensive woodworking.

In the case of the metallurgical industry, the output of machines and equipment that will radically improve the quality and increase the output of effective types of products and will enable ferrous-metallurgy enterprises to be widely reequipped is required. It is planned to develop at an outstripping rate the production of machines for continuous casting. The use of these machines at ferrous-metallurgy enterprises alone will provide a benefit of up to 1 million rubles just during the 11th Five-Year Plan, according to rough estimates.

The industry's workers are paying major attention to creating and producing assemblies and machines, including mills to produce roll-formed section of a varied mix and to roll machinebuilding parts and blanks, wiredrawing finishing mills, and other equipment. Simultaneously, the output of modern equipment for the so-called fourth conversion--heat treating, which applies a protective coating and finish to various types of rolled products--is called for.

The main trend in the production of equipment for the chemical and petrochemical industry remains an increase in capacity per unit.

Under modern conditions, the role of machinebuilding in the realization of specific integrated national-economic, scientific-and-technical, social and some other programs is being raised sharply. Most important among them, and one which is being developed as an organic part of the plan for economic and social development during the 11th Five-Year Plan, is the foodstuffs program. It attributes decisive importance to the accelerated development of the agricultural-industry complex and to strengthening agriculture's supply and equipment base.

The machinebuilding industries should increase considerably shipments of tractors, grain-harvesting combines, trucks and other types of equipment to fields and to animal-husbandry departments. Thus the countryside will receive 1.87 million tractors and 600,000 grain combines during the 11th Five-Year Plan.

Not only will the amount of machinery sent to agriculture be increased, but its quality also will be raised. Industry will master completely the production of high-powered tractors and of a whole set of machines and implements for them. Average tractor power will be 97 hp instead of the 76 hp of the 10th Five-Year Plan. What is this equipment good for? Let's take the K-701 tractor. It has, figuratively speaking, more than 30 "specialties." Operating together with the appropriate assemblies, it can serve as a bulldozer, a scraper, a snowplow and loader, and so on. The Belarus' can perform tens of agricultural operations. Moreover, the machine has a comfortable cab, a spring seat adjustable to the operator's height and weight, noise-abatement features, and so on.

During the new five-year plan the machinebuilders will give agriculture new and increasingly productive combines. The development of a combine with a throughput of 10-12 kg of grain per second should be completed. This machine will have more favorable conditions for the driver than its predecessors. The Niva, Kolos and Sibir-yak grain-harvesting combines are being modernized.

Of course, the equipment named is only a portion of the numerous fleet that will go to agriculture during the new five-year plan.

Workers of field and animal husbandry will receive almost 1½ million trucks. Mainly these will be products of the Kama Motor-Vehicle Plant. The average load

capability of the vehicles is being raised from 3.6 to 4.8 tons, and the total load capability of the vehicles that the automakers send to the countryside will increase by 43 percent.

Widespread deliveries of agricultural equipment will enable integrated mechanization of the cultivation and harvesting of grain, sugar beets, corn, flax and cotton to be completed during the 11th Five-Year Plan. The level of mechanization for the harvesting of other crops also will be raised.

Especially great tasks have been set for a comparatively new specialized branch--machinebuilding for animal husbandry and mixed-feed output. These branches are to increase the output of sets of highly effective machines and equipment for the procurement and preparation of feed and the upkeep and breeding of cattle and poultry and equipment for fresh-water fishing. The mechanization of the water supply and of cattle milking at animal-husbandry departments and of production at poultry factories and poultry departments will be basically completed.

In order to carry out the foodstuffs program successfully, the preservation of agricultural products and the integrated processing and delivery thereof with high quality to the consumer are acquiring ever-increasing importance. Because of this, workers of machinebuilding for the food industry have been called upon to create and master the production of new equipment and to increase the output of existing equipment, which will enable agricultural raw materials to be better preserved and to be processed in integrated fashion. More than 500 new types of industrial equipment are to be mastered and put into serial production. As a result, labor productivity in the branches of the economy being served will rise 1.5-fold to 2-fold. The machinebuilders also are to create and organize the serial production of progressive equipment for the realization of other major scientific and technical programs. These include an integrated program for developing the mechanization and automation of elevating-and-conveying, loading-and-unloading, and warehousing operations, a special integrated program for creating new types of equipment for the generation of electricity and heat, the production of instruments for measuring-and-computing complexes and of systems for scientific research, the wide use of power semiconductor equipment in the national economy, and others.

It is understandable that great economic benefit is expected from all this. Thus, thanks to the execution of a program for mechanizing elevating-and-conveying, loading-and-unloading and warehousing equipment, hundreds of thousands of workers now engaged in heavy physical labor will be provisionally released.

The complicated tasks set by the 26th CPSU Congress for branches of the national economy present special demands on the development of machinebuilding itself and on its production, scientific and technical base. For example, it is to increase the work effectiveness of machinebuilding associations and enterprises by reequipping them and by constant improvement of the technology for and organization of production. Machine-tool manufacturing--the heart of all machinebuilding--has a decisive role in this.

Domestic machine-tool manufacturing is right now a powerful branch of industry. Each year it produces more than 300,000 metal-cutting machine tools and forging, pressworking and casting machines. Our country has created the world's first automated plants for the manufacture of motor vehicle pistons and bearings. The serial output of high-precision machine tools for instrumentmaking and

specially made equipment for heavy and power machinebuilding has been mastered. Other achievements of Soviet machine-toolmakers could also be mentioned.

During the 10th Five-Year Plan this branch was developed at a very rapid pace. Let us note that the increase in output volume was combined with a substantial updating of equipment, noteworthy advances in the structure of machine-toolmaking and outstripping growth in the production of more effective equipment. Even more important tasks have been set before the industry during the 11th Five-Year Plan. It will be necessary to increase the productivity and precision of metal-cutting machine tools, forging and pressworking machines, and casting and wood-processing equipment, and to increase their reliability and durability in operation. The tasks in this area are extremely strenuous. Suffice it to say that the productivity of the types of equipment named should grow 1.3-fold to 1.6-fold, the precision of metal-cutting machine tools by at least 20-30 percent. The structure of the metalworking pool is to be essentially improved. For this purpose, forging and pressworking equipment must be produced at an ever higher rate.

In the production of metal-cutting machine tools and special, specialized and gauged machine tools, metalworking installations with numerical program control will receive outstripping development. The output of multiple-operation machine tools that change tools automatically and of automatic production lines for machinebuilding and metalworking will be increased.

The creation and introduction of miniature electronic-control machines and of industrial robots are opening up truly revolutionary opportunities, as Comrade L. I. Brezhnev stated at the 26th CPSU Congress. They should receive the widest use.

Even today automatic manipulators are at work in the assembly of pumps, compressors, computers, refrigerators, lighting fixtures, television and radio equipment, typewriters, and parts and components for motor vehicles and other output.

At the Motor-Vehicle Plant imeni I. A. Likhachev 324 automatic lines and 789 mechanized flowlines, at which almost all ZIL output is being manufactured, have been created and are in operation.

During the new five-year plan the production of industrial robots will be aimed increasingly at facilitating the work of the person, raising his creative potential, and helping in the acquisition of additional "work hands" for various branches of the socialist economy.

In order to achieve the intended purposes, the work effectiveness of the machinebuilders themselves must be greatly increased, primarily by reequipping enterprises, developing further specialization within and among machinebuilding branches, and improving the organization of production and management.

One cannot avoid speaking also about the need to make better use of the production potential that has been created, the existing capacity, and fixed capital. And we are speaking primarily about a higher shiftwork utilization factor for the machine-toolmaking pool. Machinebuilding production effectiveness is unthinkable without rational and economical expenditure of material resources and of rolled ferrous and nonferrous metals. The specific materials intensiveness of the equipment produced (estimated consumption of the most important types of material resources per unit of capacity or productivity of the equipment) must be reduced systematically. The reserves here are extremely considerable. The fact alone that some enterprises

continue to produce unjustifiably heavy products, including bulldozers, tractors, certain types of rolling equipment, and so on, testifies to this. Based upon this, the "Main Directions" have established strenuous tasks for saving material resources. In particular, machinebuilding and metalworking should provide for a reduction in the specific consumption of rolled ferrous and nonferrous metals and of steel tube. Wider use is to be made of economical and effective types of metal output and plastics and of progressive industrial processes.

Machinebuilders will give consumer industry no little equipment. It is known that the "Main Directions" set complicated and responsible tasks for those who build machinery for the country's light industry and its food industry. An exhibit that was promoted recently at VDNKh SSSR [Exhibition of Achievements of the USSR's National Economy] was a major review of its achievements. Its visitors saw here models of both spindlefree spinning machines and the newest equipment for the footwear industry, including a laser installation for the programmed pattern-cutting of materials, improved weaving machines, and other machinery. The VDNKh SSSR exposition tells about automated lines and flowlines, ganged machines and automatic machines for the branches of the foodstuffs industry. The Leningrad Printing Machinery Plant acquainted exposition visitors with the Kaskad phototype-setting complex. This innovation greatly raises productivity and reduces the manual labor of printers. Kaskad handles, aside from Russian, almost all European languages. During the 11th Five-Year Plan the country's printers will receive still more offset machines, automated equipment for letterpress printing, and so on. Visitors can also see various models of this new equipment at the VDNKh SSSR.

Machinebuilders are people who are in the vanguard of technical progress. In their front ranks are the communists, who impart a correct tone to the drive for a rise in the effectiveness and quality of work. Having included themselves in the nationwide competition for a worthy greeting for the 26th CPSU Congress, workers of the machinebuilding industry, under party organizations, have achieved substantial successes in carrying out 10th Five-Year Plan tasks.

Difficult goals have been set for them under the new five-year plan. The decisions of the 26th CPSU Congress of Lenin's party obligate the industry's workers to work with even more selflessness and to devote all their efforts to speeding up technical progress. There is no doubt that the party's task for them will be carried out with honor. The experience that has been gained, and the initiative and glorious traditions of Soviet machinebuilders are a guarantee of that.

COPYRIGHT: "Kommunist vooruzhennykh sil", 1981

Machinebuilding Quality Improvement Conference

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 27 May 81 p 2

[Article by V. Kovalenko: "Important Tasks for the Machinebuilders"]

[Text] An All-Union conference on questions of raising the quality and technical level of machinebuilding output and on saving metal opened yesterday in Moscow at the Hall of Columns of the Palace of the Soviets. Its participants listened with deep attention to the letter of greeting of the CPSU Central Committee General Secretary, Chairman of the USSR Supreme Soviet Presidium Comrade L. I. Brezhnev, which was read by CPSU Central Committee Politburo Member and CPSU Central Committee

Secretary A. P. Kirilenko. The greeting gave a high evaluation to the contribution of the creators of new machinery to reequipping the national economy, and it formulated with precision the machinebuilders tasks in converting the country's economy to the intensive path of development.

Domestic machinebuilding has entered the 11th Five-Year Plan, having at its disposal a high scientific, technical and production potential, and a well-trained cadre of scientists, specialists and wage workers. It has no few achievements to its credit in the area of creating modern equipment for all branches of industry, agriculture, construction and transport. However, the "conditions under which the national economy will be developed in the 1980's," the Accountability Report of the CPSU Central Committee to the 26th party congress emphasized, "makes the acceleration of scientific and technical progress even more urgent." That which slows solution of this most important task, and methods for eliminating obstacles in the path of raising machinebuilding work effectiveness--these problems were given the main attention in the reports of the Deputy Chairman of the USSR Council of Ministers A. K. Antonov, Deputy Chairman of the USSR Council of Ministers and Chairman of the State Committee for Science and Technology G. I. Marchuk, and First Deputy Chairman of USSR Gosplan N. I. Ryzhkov and in the speeches of supervisors of ministries and agencies and leading specialists of enterprises and scientific-research organizations.

The technical level and quality of some machines still do not meet modern requirements. In machine toolmaking and transport machinebuilding and in the production of equipment for light industry and the food industry, less than half of each 10 models created goes into series production. At the same time, the experience of advanced collectives and of certain branches as a whole of the industry, particularly the electrical-equipment industry, heavy machinebuilding and instrumentmaking, indicates that success in accelerating the mastery of new articles can be achieved only by means of an integrated system of measures that orients both the developers and the manufacturers of equipment to increasing the national-economic effectiveness of their work--in other words, to high final results. It is important to disseminate as widely as possible the experience in managing scientific and technical progress that has already been gained and to direct the efforts of collectives to its further development and enrichment.

The reports analyzed deeply ways to save material resources. During the current five-year plan the machinebuilders should reduce the specific consumption of ferrous metals by 18-20 percent, of nonferrous metals by 9-11 percent. There are three main areas for solving this task: improving design development of the equipment produced, making wide use of resource-saving technology, and making use of modern materials.

CPSU Central Committee Politburo Member and Chairman of the USSR Council of Ministers N. A. Tikhonov, CPSU Central Committee Secretary V. I. Dolgikh, deputy chairmen of the USSR Council of Ministers, ministers, and responsible workers of the CPSU Central Committee participated in the conference.

The conference continues its work today.

More Reliable, Durable Tools

Moscow EKONOMICHESKAYA GAZETA in Russian No 20, May 81 p 17

[Article by I. Novosel'skiy (of the journal STANKI I INSTRUMENT): "Effective Tools"]

[Text] Every metalworker knows that the higher the reliability and durability of a tool, the less the time and effort that are spent on replacing and sharpening it. Metal-cutting speeds are increasing, and specific consumption of electricity is being reduced. The Poltava Artificial Diamonds and Diamond Tools Plant imeni 50-letiya SSSR is recommending cutters made of geksanite, whose durability is 8-fold that of tools made of hard alloys.

At this same enterprise an accessory for sharpening superhard tools by means of diamond or el'bor disks has been developed and is being manufactured. Tools sharpened by these disks are 1.6-fold to 1.8-fold more durable than tools sharpened by an abrasive.

The serial output of lathe tools equipped with manysided nonresharpenable blades made of polycrystals of superhard materials has been mastered by a number of Min-stankoprom [Ministry of Machine Tools and Tool Building] tool plants. In comparison with tools that have resharpenable inserts, the durability of the new cutters is increased 2-fold to 3-fold.

Specialists also recommend cutters made of el'bor, which were developed by the Voroshilovgrad Machinebuilding Institute and are being manufactured at enterprises in this city. Labor productivity is doubled when these cutters are used.

Automatic Vertical Milling Machine

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 6 Jun 81 p 2

[Article by A. Shipov (L'vov): "High-Precision Machine Tools"]

[Text] The production of an automatic vertical milling machine has been mastered at the L'vov Milling Machine Tools Plant. Unlike its predecessors, the automatic machine can machine with micron precision simultaneously not one but four blanks of the most complicated configuration that weigh from a few grams to 85 kg. The wide introduction of such units in various branches of the national economy will enable thousands of machine-tool workers to be released for more skilled work. Many of them will be able to receive the specialty of operator-technician.

During the last five-year plan the products mix has been completely updated. Obsolete general-purpose machine tools have given way to the new ones, which have automatic tool change and are intended for the integrated machining of parts.

11409

CSO: 1821/099

END

END OF

FICHE

DATE FILMED

17 Aug. 1981